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Fortnightly Review

Disintegration

THE aviation industry is completely, thoroughly and unqualifiedly disgusted with the political mess and the chaotic disintegration of what once was the Civil Aeronautics Authority.

Never in the history of civil aviation has government control sunk to such a ludicrous and pitifully inept leadership—and civil aviation has seen plenty of dark days in the past.

Friction, uncertainty, lack of policies, lack of leadership and petty intrigues engineered by wholly incompetent left-overs from WPA have all but wrecked an organization which got off to a good start and which had every reason to succeed.

The reorganization of the Authority into the framework of the hodge-podge Commerce Department was the greatest blunder and the most unbearable insult that could be delivered to one of America's most vital industries and activities.

The important post of Administrator of Civil Aeronautics—a post which should be the most important job in civil aviation in the world—has become comic opera with a poor old Army engineer who handled WPA projects on the west coast as the nominal holder of the title. He has covered himself with glory already by warning veterans who have been flying for years against the dangers of the "flying machine." Actually! The man who is still calling airplanes "flying machines" has as his most important—and apparently only—job, the signing of papers and doing what he is told.

There isn't any use keeping it a secret. The plain fact is that the Administrator of Civil Aeronautics

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Reorganized CAA in Chaotic Condition; Hinckley on Spot

TOM HARDIN JOINS TWA AS VICE-PRES.

Assumes Post Aug. 1; Will Direct Long-Range Safety Program

Thomas O. Hardin, whose office as chairman of the Air Safety Board was abolished by the reorganization of the Civil Aeronautics Authority, has been elected by the board of directors as vice-president in charge of safety for Transcontinental & Western Air Inc., Jack Frye, president, announced July 6. The election took place before mid-June but announcement was held up until after the expiration of Hardin's term of office June 30.

He will assume his new duties at Kansas City, Mo., Aug. 1. Until July 15 he was consultant for the Air Safety Bureau of the Civil Aeronautics Board which assumed the functions of the Air Safety Board.

An international authority on air safety, Hardin will direct a long-range program of safety in connection with TWA's operations and will observe and study all matters concerning safety in air transport operation, Frye said. He will cooperate with D. W. Tomlinson,

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Elected TWA V.-P.



Thomas O. Hardin
Chairman of the Air Safety Board
who assumes high airline post.

Boutelle Resigns to Shun 'Purge'; White House May Step In

CONFUSION, friction, uncertainty and bitterness, plus the disintegration of morale of the personnel, marked the formal transfer of the former independent Civil Aeronautics Authority into the Dept. of Commerce on June 30.

No sooner was the ink dry on the documents than the anticipated "purge" began—engineered by Robert H. Hinckley, until June 30 chairman of the Civil Aeronautics Authority, and now assistant secretary of Commerce in charge of the CAA and the U. S. Weather Bureau.

With efficiency and organization at the lowest ebb in the history of government, regulation and promotion of civil aviation in the U. S., the storm-tossed Civil Aeronautics Authority, hitherto as independent as a government agency could be, moved into a "dark era" in complete control of former Works Progress Administration "New Dealers" and "reformists" whose apparent original objective was the firing directly or indirectly of most of the old-line veterans who were part of the Bureau of Air Commerce prior to creation of CAA.

It is reliably known that Hinckley is very much "on the spot." The White House is watching the CAA closely and still is smarting over the unexpected controversy raised by the reorganization plans with which the President was obviously not very familiar. If the CAA doesn't work out smoothly in Commerce, the blame, according to informed White House circles, will fall on Hinckley since the White House is having troubles enough of its own without adding more aviation battles.

Congress Rumblyings

Rumblyings are being heard in Congress. There is still much to be told of the behind-the-scenes activity which brought about the unexpected reorganization. Whether Hinckley will be able to ride out the storm and get his house in order is still debatable but there are not more than one or two chances in Washington who would give him a good chance. The damage, as observers see it, already has been done. The first casualty of the Commerce Dept. "hitkrieg" was Richard S. Boutelle, director of the Bureau of Safety Regulations, one of the best

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It's Here Again! Like it Or Not, There IS Mr. Crim's Aviation Day

National Aviation Day has popped up again but evidently aviation organizations have little to say about it.

Genius behind the national "celebration" is a Mr. John J. Crim, who has at times represented veteran organizations on Capitol Hill and who is a fairly well known figure in the outer halls of Congress.

Mr. Crim got the idea that the nation should have a National Aviation Day. He chose August 19, this being the birthday of Orville Wright. Then he got a bunch of resolutions passed in Congress, a task not so difficult for such an innocuous purpose. So by the official law of the land, we have National Aviation Day Aug. 19 and every Aug. 19 hereafter.

Mr. Crim then had some stationery printed and opened up a two-desk office in the Woodward Bldg., Washington, D. C., and began a membership drive for his National Aviation Day Association, memberships apparently being the chief feature of

the celebration. On the letterheads appear the names of Sen. Claude Pepper and a dozen Congressmen, it being relatively easy to get Congressmen to endorse any movement which sounds patriotic and worthy.

Listed as officers are: John J. Crim, chairman; Paul A. Strachen, vice chairman; Gilbert E. Hyatt, treasurer; C. H. C. Baker, secretary, and Patrick J. Taft, general counsel. From all appearances none of these men is known in aviation circles.

Being a very determined promoter, Mr. Crim is wont to make elaborate claims about his association and told an AMERICAN AVIATION representative that he had "over 100,000 members." But on a second call in Mr. Crim's absence our reporter was told the number was 20,000, which, considering the size of the office, was probably doing it up very brown.

(Turn to page 37, col. 2)

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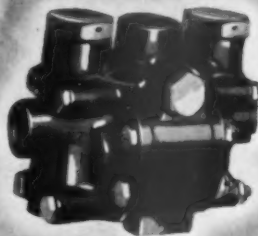
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This new unit divides hydraulic fluid equally from a common pressure line into two discharge lines, variation in volume in these lines being one per cent or less even with pressure differentials up to 1400 p.s.i.

- Synchronizes action of wing flaps, regardless of variations in load.
- May be applied to landing gear or any other pair of hydraulic units.
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CAA Announces Plans for Advanced CPTP Summer Courses

Plans for giving advanced training to approximately 1,000 students who obtained private pilot certificates in the 1939-40 Civilian Pilot Training Program were announced last week by the CAA.

During the period from July 15 to Sept. 15, certain of the institutions that participated in last year's program will give the secondary training, which will consist of both a ground course and a controlled flight course. In some cases, both ground and flight instruction will be given by the flight contractor.

Completion of the course will be equivalent to Army or Navy primary training, and "graduates" may make application to enter the Army or Navy for further training," the announcement said.

Flight contractors are required to have one airplane, which must be between 120 and 225 hp., for each 10 students. The Waco UPT-7, Ryan STA, Meyers biplane and Fairchild M62 have been specifically approved for the course.

Ground instruction contractors will receive \$200 from the government for each student who successfully completes the 145-hr. ground school course. For this, the contractors will furnish classroom facilities and instructors, accident insurance for each student, text books, and lodging and subsistence for student pilots.

Flight contractors will receive \$750 per student when aircraft between 120 and 174 hp. are used, and \$800 for planes between 175 and 225 hp. Contractors who purchase new equipment for the secondary course will be paid \$50 additional for each student trained on such equipment.

FM Transmitters for Alaska

Four General Electric 250-watt frequency modulated transmitters have been purchased by the Civil Aeronautics Board to control radio-range equipment in Alaska. Radio ranges are being set up by the CAB at Hinchbrook Island near Cordova, and on Relston Island near Juneau.

Calendar

- July 15-17—Air Transport Association's Engineering & Maintenance Conference, Hotel St. Paul, St. Paul, Minn.
- July 20-26—Summer Cruise & Annual Meeting of Sportsman Pilots Association, St. Jovite, P. Q., Canada.
- July 21—5th Annual Air Show, Ft. Wayne, Ind.
- July 26-28—3rd Annual Air Tour of the Cleveland, O., Junior Chamber of Commerce.
- July 26-28—Aquatennial Air Show, Wold-Chamberlain Field, Minneapolis, Minn.
- Aug. 1—Opening Ceremonies for Love Field's New Administration Building, Dallas, Tex.
- Aug. 4—Dedication of Coast Guard Air Station, Elizabeth City, N. C.
- Aug. 11-17—4th Annual Wisconsin NAA Air Tour.
- Aug. 18-19—Air Show Sponsored by Sheldon Chapter of NAA, Roscoe Turner Field, Sheldon, Ia.
- Sept. 3-6—American Society of Mechanical Engineers, Fall Meeting, Spokane, Wash.
- October—Air Line Pilots Association, Annual Convention, Chicago, Ill.
- Oct. 7—Air Line Mechanics Association, Annual Convention, Chicago, Ill.
- Oct. 7-11—National Safety Congress & Exposition, Stevens Hotel, Chicago, Ill.
- Oct. 17-19—NASAO's Annual Convention, Louisville, Ky.
- Oct. 31—Nov. 1-2—National Aircraft Production Meeting & Engineering Display of SAE, Hotel Biltmore, Los Angeles, Cal.
- Dec. 17—Wright Brothers Lecture for 1940, by Dr. Sverre Fetterassen.

Bowersock, Marque and Parrish Win Annual TWA Awards for News Writing

Justin D. Bowersock, aviation editor of The Kansas City Star, Gaston Marque of The Wall Street Journal, and Wayne W. Parrish, editor of AMERICAN AVIATION, were named June 28 as winners of the newspaper and magazine trophies awarded annually by Transcontinental & Western Air Inc., for "consistently developing the best air transport writing" during 1939.

The awards were announced at a luncheon at the Advertising Club in New York City, with Thomas H. Beck, president of the Crowell-Collier Publishing Co., presiding. Paul Richter, executive vice-president of TWA, and other TWA officials, were hosts.

Bowersock, veteran aviation writer who has traveled widely by air, is one of the best known aviation writers in the nation. Formerly a student at the University of Kansas, he has been associated with The Kansas City Star for the last 15 years. He was chosen as the winner of the "open" newspaper award, receiving a plaque and \$250 in cash and is the custodian of the large trophy for one year. Earlier this year he had been awarded a plaque by the Kansas City chapter of the NAA as the man who contributed most to aviation in that city during 1939.

Second place in the "open" division was won by George Pelletier, veteran aviation editor of The Providence Journal, and third place went to James Bassett, aviation editor of The Los

Angeles Times and west coast correspondent for AMERICAN AVIATION DAILY. Bassett has covered every aviation story of importance on the Pacific Coast for five years.

Marque won the award for writers representing newspapers of less than 100,000 circulation. Formerly in Chicago, he is now a financial writer in New York. Second place went to Douglas Ingells, Dayton Daily News writer who covers commercial flying and military activities at Wright Field. Helen Waterhouse, of The Akron Beacon-Journal, won third place.

Parrish, who won the magazine section of the contest, is editor of AMERICAN AVIATION and AMERICAN AVIATION DAILY. He won second place last year and honorable mention in 1937. Second place went to William B. Courney, aviation editor of Collier's Magazine, and third place went to Dorothy Kaucher, lecturer and free lance writer of San Jose Teachers College, San Jose, Cal.

On the board of judges were W. W. Howes, former first assistant postmaster general; Col. Edgar S. Gorrell, president of the Air Transport Association; Norman Chandler, publisher of The Los Angeles Times, and T. B. Wilson, chairman of the board of directors of TWA.

This was the third consecutive year for the TWA awards. Contest was handled by Theon Wright, director of public relations for the airline.

KLM Loses Part of Douglas Fleet But East Indies Line Still Running

KLM Royal Dutch Air Lines, did not lose all of its planes when Germany invaded The Netherlands, it is reliably learned, but the fate of 12 Douglas DC-3 and nine DC-2 transports that were at Amsterdam at the time is not known. Two DC-3's were in London at the time of the invasion and two later were flown there from Naples, Italy, the four being turned over to the British government and placed into war use as British aircraft.

One DC-3 and one DC-2 at Lisbon are being kept there for the time being. Seven DC-3's are in Batavia or on the East Indies line and are running regularly in combination with British Overseas Airways from Alexandria.

Schiphol Airport in Amsterdam, KLM base, was bombed from 4 to 6 a.m. on May 10, the start of the invasion, but there were no KLM personnel casualties.

K. D. Parmentier, one of the KLM officials and well known in this country, is believed to be in England, having flown on government mission

to London on May 13. The whereabouts of Albert Piesman, another official and well known in this country, is not known but he was not shot during the invasion as had been reported.

Latin American Guide

James W. Young, director of the Commerce Dept.'s bureau of foreign and domestic commerce, has announced publication of a new guide to Latin America as a service to commercial travelers of the U. S. Copies of "Commercial Travelers' Guide to Latin America, Part III," trade promotion series No. 208, may be obtained for forty cents per copy from the Superintendent of Documents, Government Printing Office, Washington, D. C.

Hotel Discount Announced

Management of the Hollywood-Roosevelt Hotel, 7000 Hollywood Blvd., Hollywood, Cal., has announced the adoption of a policy of granting a 25% room discount "to all employees in airline, aircraft and affiliated organizations."

Detroit Facilities



Facilities for handling air passenger traffic are located on the ground floor of the new administration building at Wayne County Airport, Detroit, opened last year. Office space on the first floor has been rented by American Airlines, Marquette Airlines and Pennsylvania-Central Airlines, while on the second floor the inspection division of the CAA has occupied offices. General Aeronautics Corp. recently moved into the building.

Paul Kollsman, Squared Give Institute \$50,000 For Lending Library

An endowment of \$50,000 has been provided by Paul Kollsman, vice-president and division manager of Kollsman Instrument Division, and the



Kollsman

Square D Co. for the founding of an aeronautical lending library by the Institute of the Aeronautical Sciences at Rockefeller Center in New York. Maj. Lester D. Gardner, executive vice-president of the Institute, in

announcing the endowment at the organization's summer meeting, said the gift was the largest to a scientific and engineering society in several years.

Maj. Gardner said the Institute would establish a library from which books could be borrowed by aeronautical engineers, pilots, Army and Navy officers and others interested in aeronautics. He stated that there would be available at once 2,000 titles as well as over 100,000 books on general engineering.

In addition to the lending library, the Institute will provide a reference library of over 10,000 aeronautical books which will make the Institute the most important center for the dissemination of aeronautical information in this country.

Books from the lending library will be sent by mail to any place in the U. S. A bulletin will be issued which will review all new aeronautical books and give a digest of aeronautical magazine articles, reports and pamphlets.

"The plan of the Paul Kollsman Library is to inform the specialists in the field about new developments as well as to provide them with books and magazines," the announcement said.

Square D Co. of Detroit, of which F. W. Magin is president, recently acquired Kollsman Instrument Co. at Elmhurst, N. Y., which was founded by Paul Kollsman in 1938.

Insurance Case

to Nebraska Court

The Nebraska Supreme Court has been asked to decide whether Republic National Life Insurance Co., Dallas, Tex., can compel the Nebraska insurance department to approve policy riders to limit recovery in event of deaths resulting from the use of aircraft. The insurance company brought a mandamus action against the state department for the above purpose. The high court will decide whether an insurance company may legally limit by rider provisions the recovery under terms of its policies to an amount less than the face amount of the policy.

Attorneys for the insurance department told the Supreme Court that state insurance officials cannot approve such a proposition because of a provision in Nebraska statutes which says insurance companies cannot contract to pay less than the face amount of their policies. The only exceptions to the rule, they said, are war time cancellations and cancellations for failure to pay premiums.

Agency Re-Enters Aviation

Albert Evans & LeMay Advertising Agency, 909 Dan Waggoner Bldg., Ft. Worth, Tex., which formerly handled advertising and sales promotion work for the old Southern Air Transport and later for Aviation Corp., with which SAT was merged, is re-entering the advertising and sales branches of the industry. The agency several years ago handled a heavy aviation publication schedule for Texas Pacific Coal & Oil Co.

Reorganized CAA

(Continued from page 1)

known and most respected men in aviation, who resigned within an hour after he was informed that the general inspection unit of the CAA was to be shifted under a large new private flying bureau to be headed by Grove Webster, who has been chief of the private flying development division.

Second resignation was that of Dr. E. S. Adams, chief of the medical section, who also would be under Webster if the proposed plan goes through. Dr. Adams has resigned effective Aug. 1 to go on active duty as a lieutenant-colonel in the Army Air Corps. Although he would not comment on his resignation, it is no secret that Dr. Adams was "fed up" with the internal friction and the "brain trust" plans which came to light with the reorganization June 30.

Rumors of other important resignations were current but the unexpected resignation of Boutelle—who refused to condone the wrecking of his general inspection divisions—temporarily shelved the plans which already had been laid out to "house-clean" the old CAA organization. As this issue went to press, Hinckley had back-tracked and had submitted the plan for "study," although it was ready to put into effect on July 1.

Meanwhile the remains of the Civil Aeronautics Authority were in a chaotic state. Practically no work was being done in any unit. Disorganization reigned. The five-man Civil Aeronautics Board, assigned to economic regulation and investigation of accidents, attempted to pull itself out of the wreckage and get started on a new track, but it was not at all certain that the "independence" which the Board was promised over personnel and budget would be borne out in fact.

Other developments were:

Two able secretaries, one in government service since 1919, were summarily "fired" by Hinckley's secretary without notice and without time to finish letters they were typing.

Every raise given on merit to employees of the Air Safety Board since 1938 was summarily rescinded.

Over 20 lower-bracket employees of the Air Safety Board were given notices on June 30 that their services were no longer desired as of July 1. (Advance notice is customary in the government).

As this issue went to press the Dept. of Commerce had not yet approved the allocation of funds for the Safety Bureau in the Civil Aeronautics Board and as a consequence over 50 employees (on July 9) were working without knowing whether they would be paid as of July 15. Not one Air Safety Board employee was on the payroll as of that date.

The international division, of which Sam Gates has been chief, was abolished with the functions split up between the Board and the Administrator, and Gates was named consultant.

Dan Sayre, director of statistics and information, and John Stuart, chief of the information division, were relieved of their jobs when their posts were abolished. Sayre was given a post in the Safety Bureau.

Two employees of the Air Safety Board were relieved of their jobs June 30 for purposes of economy but were hired the following Monday by the private flying division of CAA under orders from the White House.

Predictions were openly made that Hinckley would not last long in his

present post and that the chaotic condition of CAA under Commerce would be a political issue in the 1940 campaign.

More than one inspector in the field, uncertain of his job, was making plans to go back to private industry.

Battleground in Private Flying

Chief background in the present unsettled situation in CAA centers in the private flying division which has been sponsored personally by Hinckley. For many months Hinckley has refused to cooperate with the former Administrator, Clinton M. Hester, who raised personnel morale to its highest level in aviation history.

Although the private flying division (which controls the civilian pilot training program) is technically under the Administrator, Hinckley has consistently refused even to communicate with the Administrator or the general inspection units. By dealing direct with the private flying division an untold amount of friction has developed, with general inspection still doing 90% of the work in the pilot training program.

Those who are well acquainted with the situation blame this short-circuiting of procedures by Hinckley for the present situation, plus the fact that Hinckley has devoted 90% of his time to the pilot training program and military liaison and neglected his other duties.

Most farcical development is the status of the new "Administrator," a Col. Donald M. Connolly, former WPA contact man with Hinckley on the west coast, whose powers and responsibilities under the new set-up apparently are not much more rigorous than signing papers and doing as he is told.

Within a few days after he had become consultant to CAA—pending his Senate confirmation as Administrator—Col. Connolly had gotten himself in one tight squeeze after another by starting to do things one way and finding that the job already had been done—in another way. Insiders predict his stay as "Administrator" will not last long.

CAB Economic Bureau Revised; International Division Abolished

Reorganization plans resulted in several changes July 1 in the former CAA's bureau of economic regulation, including several promotions and also the abolition of the international division.

Raymond W. Stough remains director of what is now known as the economic bureau of the Civil Aeronautics Board, and Edward S. Ridley, former chief of the economic compliance division, becomes assistant director, a job formerly vacant.

There are now two divisions of the bureau: proceedings and analyses. C. Edward Leasure, former chief of formal proceedings, has been promoted to chief of proceedings, with the following sections under him: formal proceedings with Francis W. Brown, former examiner, as chief; informal proceedings with J. C. Freeland as chief, and docket section with L. T. Fetter as chief. The analyses division is headed by F. H. Crozier, and under him are A. H. Gilbert, chief of analysis and research; Ben Puckett, chief of field audits, and Edward A. J. Fay, chief of tariff section.

Under the reorganization, the international division formerly headed by Samuel E. Gates is abolished, with its functions divided among the Administrator, general counsel's office and the economic bureau. Gates is now international consultant to the CAB.

Hinckley's Boss

Although Robert H. Hinckley has been chairman of the Civil Aeronautics Authority, observers close to the CAA give credit to his secretary, Miss Roseanne McQueston, for being the real boss of the office. Well versed in the ways of inner-office politics, having been secretary to one-time Senator Dill of Washington, Miss McQueston is the one who gives the orders, according to informed government people. When Hinckley has been kidded by friends that his secretary is the actual boss, he has been known to get verbally explosive. It's a touchy subject. Miss McQueston is a former school-mate of Jack Cram, one-time fixed base operator in the Northwest, who is second-in-command in the Civilian Pilot Training Program. Although Hinckley has been given credit for putting over the pilot program, insiders say the real master mind is his secretary. At any rate she's being given credit for stirring up much of the present internal trouble in CAA.

Hinckley Joy Rides

Within one week after the Dept. of Commerce had fallen heir to the 11 planes formerly used by the Air Safety Board, Robert H. Hinckley, assistant secretary of Commerce, was following in the footsteps of Col. J. Monroe "Rowboat" Johnson, former assistant secretary of Commerce who was noted for using Commerce Dept. planes for personal use. Hinckley was flown in a CAA Howard plane to New York for the July 4th week-end, thence by a CAA Boeing 247 10-passenger transport plane to the Thousand Island estate of Edward J. Noble, former CAA chairman and now under-secretary of Commerce, and thence back to Washington. Government pilots flew the ship.

Aircraft Investigation—Without Planes

The Air Safety Board had 11 airplanes for its accident investigation and research work. Under the reorganization which abolished the independent Board and transferred its functions to the Safety Bureau of the Civil Aeronautics Board, the planes were transferred to the Administrator. Neither the Civil Aeronautics Board nor the Safety Bureau assigned to investigate aircraft accidents now has a single airplane. Aircraft accident investigators must travel as much as 1,000 miles by automobile to the scene of accidents. Meanwhile the new "czar" of civil aviation, Robert H. Hinckley, has used planes for personal travel for a week-end vacation.

Newspaper Describes 'Demoralization' of CAA; Says Others Likely to Quit

Demoralization of the Civil Aeronautics Authority personnel was reported July 5 by Jerry Klutz, government columnist for the *Washington Daily News*. "Yesterday—July 4—was the day small boys shot off firecrackers and burned their fingers," Klutz said, "but down at the Commerce Dept. grown men have lighted fireworks under the Civil Aeronautics Authority."

"Some employees have been burned to a turn and the agency has been thrown into confusion generally."

"Employees are demoralized. They don't know what will happen next. The place is filled with rumors that this or that official will resign in protest to what is going on."

"Reorganization is the cause of it all, reorganization that is swell in theory but which is apt to leave a good agency in shambles unless it is expertly done. Politics caused the ruin of the old Bureau of Air Commerce when it was located in the Commerce Dept. Whatever charges were made against CAA, playing politics wasn't one of them."

Referring to the resignation of Richard S. Boutelle, director of the Bureau of Safety Regulation, Klutz said: "Employees are particularly peeved over the resignation of Boutelle. If the masterminds go through with their proposed reorganization of the safety division there will be others who'll quit. Two key men who worked under Boutelle are being prepared for the ax."

"The real bosses of CAA now are Robert H. Hinckley, who squawked his head off and threatened to resign when the reorganization orders were announced but who later was appeased by his appointment as assistant Commerce secretary, and Edward J. Noble, undersecretary of Commerce. Both Hinckley and Noble are former CAA chairmen."

"Another in Commerce who has his fingers in CAA pie is Stuart Guthrie, special assistant to Commerce Secretary Harry Hopkins, who is one of the so-called 'Corcoran boys.' Mr. Guthrie is former general counsel of CAA. Also, A. J. Naylor, former CAA budget official, who now holds a similar job in Commerce. Neither Guthrie nor Naylor got on particularly well with at least one of the key CAA officials who has resigned."

"It is a widely held opinion that personalities caused the shake-up. If that is so, it won't take very long for CAA to become a politics-ridden and inefficient outfit like the old Bureau of Air Commerce."

Birmingham Urges Action

The city of Birmingham has adopted a resolution stating "we hereby urgently request the Civil Aeronautics Authority and other officials in Washington to use all speed possible, consistent with sound judgment, in making their decisions on the new air routes desired by this city."

Budget Bureau's Face Red; Where are the \$220,000 'Savings'?

The U. S. Bureau of the Budget has a very red face these days. After having told the President—chiefly by guesswork—that the transfer of the Civil Aeronautics Authority to the Dept. of Commerce would save the government \$220,000 a year, the Bureau is hard put to it to juggle the figures and manipulate the bookkeeping to find the \$220,000 savings.

Inside information is that the Bureau of the Budget actually opposed Reorganization Order IV, but was overruled and told to "go along." Faced with the necessity of justifying the order, the Budget Bureau cooked up the \$220,000 figure. Just prior to the transfer June 30, Bureau officials were, for once, on the defensive in trying to maneuver the figures to show a saving. The Dept. of Commerce admitted that not one cent would be saved by having the Department take over routine office management and so-called "housekeeping" activities. The "savings" will in reality be juggled bookkeeping except for dismissal of a relatively small number of minor employees.

Credit for writing Reorganization Order IV is now given to Charles Stuart Guthrie, former CAA general counsel and now a special assistant in the Dept. of Commerce. Guthrie is a protégé of Thomas "Tommy the Cork" Corcoran, well known New Dealer and Roosevelt adviser. Origin of Order IV is understood now to be with Robert H. Hinckley, former CAA chairman, Edward J. Noble, undersecretary of Commerce, and others of the Commerce-WPA group. It is known definitely that some of the White House advisers strongly opposed Order IV, predicting chaos and internal dissension. They now consider they were right in view of subsequent developments.



Boutelle

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Patterson Charges Politics, Unjudicial Conduct, in CAA

Sharply Condemns Body for Inefficiency and Disintegration

IN A SEVERE and lashing condemnation of the Civil Aeronautics Authority which included a charge that this agency evidenced a lack of judicial conduct in arriving at decisions, W. A. Patterson, president of United Air Lines, sent a letter dated July 5 to all United Air Lines employees urging his organization to "offset what appears to be complete disintegration of the CAA."

Hitting especially at the length of time the CAA has taken to arrive at decisions, and asserting that politics has become of greater interest to the Authority than the interests of aviation, Patterson urged his employees to "show this agency of government that we can carry out our responsibilities to the public more efficiently than they carry out their responsibilities."

No air transport official has ever launched such a vigorous attack against the government's aviation agency. Immediate reaction in Washington was applause for the transport executive's forthright expression of what most of the industry has been thinking and talking and concluded that this verbal blast was another step in the "housecleaning" of the CAA which is bound to come.

According to Patterson, his letter was prompted by the fact that only in June 1940, after practically two years of operation under the Civil Aeronautics Act, has United had the opportunity to obtain first hand the thinking of the Civil Aeronautics Authority, because only in recent weeks has United "been able to get a decision from them."

Hits Delay

Admitting that out of four decisions, three have been adverse, Patterson said: "My chief complaint is the time it has taken—the evidence is old—and you cannot make an intelligent decision unless you are making one based on current conditions."

He also called attention to resignations and transfers of able CAA men, as reported in AMERICAN AVIATION DAILY, as evidence of CAA disintegration.

"We are going to make a success of our company in spite of the Civil Aeronautics Authority or any other regulatory body," he said. "Briefly and frankly speaking, the Civil Aeronautics Authority in air transportation has been most disappointing and that is putting it mildly."

Patterson explained that many employees had asked for his reaction to the recent CAA decisions, but that he had waited several days to give the matter proper deliberation. "I am now ready to speak my piece," he said. Following passage of the Civil Aeronautics Act, United was "as constructive as it is possible for anyone to be in praising the law and the appointments," he explained.

"We did make the one qualification, however, that the success of the law depended entirely on the administration and the interpretation of the law," he continued. "We have continued our support of the Civil Aeronautics Authority even though there were things going on that could only result in destructiveness."

United has had four CAA decisions: (1) the Western Air interchange agreement, (2) application for merger with Western Air, (3) rate case, and (4) ap-

plication to serve intermediate cities on the Pacific Coast. Patterson emphasized that his reaction to the CAA is not the direct result of the fact that three of these decisions were adverse to UAL.

No Favorable Decisions

"United Air Lines has never had a favorable decision out of this administration since it has been in office, so this latest basketful of decisions is nothing new," he said. "It is just being consistent with what has happened for the past seven years."

The interchange agreement, Patterson said, "was disapproved by the Post Office Dept. on two different occasions for no good reason. A book could probably be written on what went on behind the scenes in that case." He criticized the CAA and FO for "deferring a constructive development that originated more than three years ago."

The WAE merger "is a difficult one to understand," the United president said. He praised Dean Roscoe Pound's proposed report, but stated that, because it is not unusual for a regulatory body to overrule an examiner, "let us assume that the decision is not an unreasonable one. Let us take the position that the decision is debatable, however. An outstanding criticism of this decision is that too many people knew what the decision was going to be long before it was ever rendered. That is not judicial conduct."

Reasons for overruling Dean Pound's decision, in my opinion, should have been as intelligently outlined as his were to make a good comparison if nothing else."

Patterson explained that one of the CAA's arguments in refusing the merger was that to give UAL greater control of west coast air transportation would be harmful. He then quoted figures showing that American Airlines has 6,277 route miles east of El Paso, TWA has 4,334 east of Albuquerque, while United has only 2,081 east of Cheyenne. American thus has an equal advantage on the east coast and their entire system is only 58% competitive, compared to 80% for UAL, he stated.

Credit to WAE

Western Air is given great credit for having reduced local fares, yet when United instituted similar fares in non-competitive territory, the CAA hesitated several days before approving them, and then only on a six-month basis, Patterson said. "One company is commended for doing a particular job and the other is questioned for doing the identical job," he added.

Patterson said he has "no serious complaint on the formula" used in the company's recent rate decision, which will reduce mail compensation by about \$150,000 per year. "My chief complaint is the time it has taken to make this decision," he explained, adding that intelligent findings cannot be made on evidence over a year old.

"If United Air Lines' rate is considered a proper one, then there is something radically wrong with another rate existing and being paid to another transcontinental carrier doing the same work," he said. "Let us see how long it will take them to adjust the other rate."

"The Civil Aeronautics Authority may not know it but when they continue to tolerate existing inequalities they place a terrific burden on management with its stockholders when comparisons of profit and loss are made at the end of the year. I do not intend to accept any burden which should be borne by the Civil Aeronautics Authority and I believe I can so explain the inequalities that they will be perfectly clear to any understanding person."

Patterson said that "the various happenings during the past few months within a regulatory body that

had an excellent start are certainly no credit to its leadership. This morning in looking over my copy of the AMERICAN AVIATION DAILY there were reported wholesale resignations and transfers of able men who have been devoting their time to aviation for several years. In the past they have never been given an opportunity to show their ability, and just at a time when they were getting the feeling of permanency another change has to be made causing dissension, friction and uncertainty. Other capable men just do not know where they stand. Briefly and frankly speaking, the Civil Aeronautics Authority in air transportation has been most disappointing, and that is putting it mildly."

Government Is Incidental

Government is "only incidental to our business and not the primary factor," Patterson told his employees. "Some of these people in Washington have become self-appointed saviors of aviation. They fool themselves. You and employees of other airlines made aviation. You will hold it, and it doesn't need saving. It is here and no force will stop it. . . . Government may retard us from a normal growth but it will not retard us in our eventual growth."

UAL employees will continue to "do our jobs well as businessmen" and will not devote "the major part of our time to playing politics in Washington," Patterson said.

He discussed the informal meeting held with the CAA over United-American simultaneous New York-Chicago departures, and said that every CAA department head testified "before their superiors" that there was nothing wrong with such departures.

"A record was taken of this meeting by a court reporter," he explained. "We asked for a copy of the record. Our request was refused. The Civil Aeronautics Authority wrote a regulation in which they attempted to treat the question of simultaneous departures only as it affected United Air Lines between Chicago and New York, and in their attempt to dodge the issue as a general question, United Air Lines was able to continue its non-stop flights between Chicago and New York by flying via Akron instead of over our own route via Cleveland."

"In other words, they chased United Air Lines off a route that they had been flying for 10 years. A regulation that can be avoided so easily is evidence that the regulation is ridiculous."

"All I can say about that regulation is that if American Airlines had written it themselves they couldn't have done a better job."

Patterson concluded by stating "let us hope for the day when we have a leadership in the Civil Aeronautics Authority that is more conscious of aviation than they are of politics."

C. B. Allen Returns to N. Y. Herald Tribune

C. B. Allen, Air Safety Board member, whose position was abolished by reorganization plan 4, is now working for the New York Herald Tribune, where he was formerly employed, and is covering national defense in Washington.

Allen was employed by the Herald Tribune from 1934 to 1938, when he was granted three months' leave of absence to serve as acting director of the CAA's division of statistics and information. He has had wide newspaper experience and is also an active pilot. He was nominated by President Roosevelt to serve on the ASB on Feb. 9, 1939.

Hester Steps Out of Office; To Open Up Private Law Practice

Clinton M. Hester, Administrator of the Civil Aeronautics Authority since its creation in 1938, stepped out of his official duties June 30 and made plans to enter the private practice of law in Washington. His resignation had been announced earlier. Although he would not comment on the reasons for his resignation, it is known that his position in the CAA became untenable when the chairman, Robert H. Hinckley, circumvented organization procedure and refused to communicate with the Administrator on many matters coming under the latter's jurisdiction.

Mr. Hester said he hoped to have some aviation accounts and would announce his detailed plans for opening up practice later. For a few months he remains with the CAA as consultant to compensate for his annual leave which he had not taken.

During the almost two years as Administrator, Mr. Hester strengthened the personnel, especially the inspection services. Refusing to follow the suggestions of Mr. Hinckley in 1938 that the old Bureau of Air Commerce personnel be dismissed, Mr. Hester retained the entire organization almost intact and later made various changes and transfers. Under his term of office the morale improved materially although the internal situation within the CAA in the past six months, credited to Mr. Hinckley's breaking up of procedures, started the general disintegration of the CAA organization which was further disrupted following the transfer of CAA to Commerce July 1.

Richard C. Gazley Resigns CAA Post

Richard C. Gazley, chief of the technical development division of the Civil Aeronautics Authority, resigned effective June 30 to accept a position with the Murray Corporation, 7700 Russell Street, Detroit, Mich. He will be in charge of a new aeronautics department.

Gazley has had a long record of government service, having been prominently identified with the old Bureau of Air Commerce prior to creation of the CAA. Although his resignation was not connected directly to the reorganization of the CAA, the technical division has had its ups and downs and the long series of reorganizations over a period of years probably contributed to Gazley's decision to leave for private industry.

Three Join Aero Chamber

New members of the Aeronautical Chamber of Commerce are E. M. Laird Airplane Corp., Chicago, Ill.; Swallow Airplane Co. Inc., Wichita, Kan., and Pacific Aviation Inc., accessories manufacturer at Hawthorne, Cal.

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Profit Limitation Rushed Into Law by Hasty Congress

8% Level Not Well Received; Changes Considered Likely

(Note: For other national defense news see also CAPITAL NOTES on page 8).

A NUMBER of new bills affecting the aviation phase of the national defense program were signed by the President over the past two weeks thus formally enacting into law a wide variety of changes in the scope of the air forces, extent of Federal authority over defense financing and production, and procurement procedure and regulation.

Among these is a new law authorizing the government to award contracts by negotiation and cutting profits allowed on aircraft and aircraft parts from 12 per cent to 8 per cent with a further limit of 8.70 per cent based on the cost of performance.

The same law likewise empowers the Federal government to make advance payments to contractors up to 30 per cent of contract price which members of Congress said would encourage and facilitate plant expansions for defense production.

This and other new legislation also provides for suspension of the 8-hour day for employes working on army and navy orders, modification of existing contracts, expansion of plants through Federal loans and construction of new plants and facilities by the government for operation by the government itself or by lease to private management.

Much of this legislation was rushed through Congress on the final day before the recess in an atmosphere of considerable confusion, as occurred in the case of the bill amending the Vinson-Trammell profit limitations law.

Early in the month the procedure for administering this new law was outlined by the President in an executive order made public through the Treasury Department. The order provides that the Secretary of War or Navy determine the percentage of cost of new facilities which may be charged against contracts on which the Vinson-Trammell law applies, making certification to this effect to the Treasury Department. The Commissioner of Internal Revenue in the Treasury then must disapprove the certification

within five days or the determination becomes binding on the government.

A multiplicity of new problems attended the hurried enactment of the new procurement laws, industry circles expressing concern over such matters as the basis of amortization, identification of items of cost and methods whereby negotiation of contracts would be handled.

While Secretary of the Treasury Morgenthau challenged industry to prove its patriotism by complying with the reduced profit limit, other official sources feared the rigid new limit might hamstring the program altogether, on the grounds that what appears on the surface a straight 8 per cent upon closer study reveals a possibility of financial risks which might detain manufacturers from accepting government orders.

Conferences continued almost daily between army and navy officials, Treasury representatives and members of the staff of William S. Knudsen, of the National Defense Advisory Commission, in an effort to untangle the maze and work out the details of administering the new provisions with the least injury to industry under the laws. Simultaneously, members of the Aeronautical Chamber of Commerce assembled in Washington to cooperate in their plans and policies in connection with government orders.

Meanwhile, the President appointed Donald Nelson, formerly head of the Treasury's Procurement Division, as new coordinator of government purchases, to be associated with the National Defense Advisory Commission and charged with the duty of thoroughly surveying Federal purchasing and recommending any changes necessary to expedite the program, as well as coordinating the buying of the various Federal departments to avoid competition.

Returning from the Republican convention in Philadelphia, Congress turned its attention toward another multi-billion dollar defense appropriation, the new War and Navy cabinet appointments, the question of compulsory military training, further expansion of the Navy including an increase in naval aircraft to 15,000 planes, excess-profits taxation, and other defense business.

Dissatisfaction with some of the hastily-enacted legislation appeared to be growing and in aviation circles in the Capital as well as in informed official quarters, speculation grew as to the probable need for revision of certain provisions before the ink dries.

War Dept. Calls Doolittle to Active Duty for Year



Doolittle

Maj. James H. Doolittle, speed record holder and president of the Institute of the Aeronautical Sciences, has been named assistant district supervisor for the Central Air Corps Procurement District in Indianapolis. The appointment was a call back to active duty by the War Dept., effective July 1, to serve until June 30, 1941. Maj. Doolittle has resigned as Shell Oil Co.'s aviation director to become Air Corps factory representative at Allison Engineering Co., Indianapolis.

Al Williams Quits Marines

Maj. Al Williams, manager of Gulf Oil Corp.'s aviation department and columnist for Scripps-Howard newspapers, has resigned his commission in the Marine Reserve Corps. Maj. Williams said he believed he could "best serve his country without military affiliations." In his newspaper writings he has urged establishment of an independent department of federal aeronautics headed by a cabinet member.

Britain Buys Guba

The Consolidated flying boat, Guba, used by Richard Archbold in round-the-world scientific flights, has been reported sold to Great Britain. It was said the famous exploration flying boat would be taken at Port Washington, N. Y., by the Royal Air Force and flown across the Atlantic.

Fleetwings Urges Vigilance

Fleetwings Inc., Bristol, Pa. has issued to all employes a statement signed by Frank de Genahl, president, warning "constant vigilance must be exerted to the end that plant, equipment and continuous production of this company, and all that it can do for the U. S. and the Allies, may be safeguarded to the utmost. Anyone not aware of the privileges of American citizenship or not in sympathy with this country's defense program and our assistance to the Allies has no place in this organization."

Maj. Cover Tests Second DC-5 Transport for Navy

Maj. Carl A. Cover, senior vice-president and general manager of Douglas Aircraft Co., late in June piloted the second of the Navy's R3D-1 cargo transport planes (DC-5) on its initial test flight from Los Angeles Municipal Airport.

With Navy inspectors in attendance Maj. Cover took up the sister ship of the plane that crashed on June 1 when crossed control cables caused the first of the Navy transports to plunge, killing its crew of four.

Remaining ships of the Navy order will be test flown by Douglas pilots and ferried to Anacostia, D. C. in the next few weeks.

Brig. Gen. Yount Dedicates Army's Largest Air Base

The Army Air Corps' new 2,000-acre, \$18,000,000 air-base—McChord Field—11 miles south of Tacoma, Wash. was dedicated on July 3 by Brig. Gen. Barton K. Yount, assistant chief of the Air Corps.

Hailed as the Army's largest air base, the field's temporary plane strength will be approximately 75 with 1,821 men and 203 officers assigned. Ultimately 5,000 men and 70 planes are expected at the base which is to be charged with the aerial defense of Washington, Oregon, Montana, Idaho and part of Wyoming.

About \$7,000,000 of the total allotment has been spent on the base.

Link Attachment Noted

The "Air Corps News Letter" dated May 15 describes a simple attachment development at Wright Field for the Link trainer, giving "complete information regarding instantaneous values of air speed and heading, ground speed and track, and wind speed and direction. It also gives complete record of the plane's path over the ground, its path in the atmosphere, and the path the wind has taken over the ground."

When Next You're in WASHINGTON

"Special Courtesies to members of the Aviation Industry"

Enjoy the modern luxury of the Hotel Raleigh. Bright, guest rooms set a new standard for comfort. Diverting new restaurants, garage.

450 Beautiful Rooms from \$3.50

"Air Conditioned"

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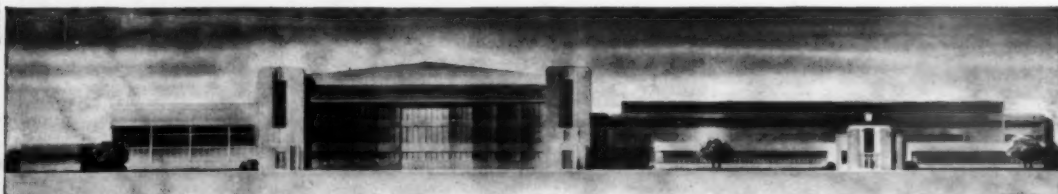
C. C. SCHIFFELER, GEN. MGR.

HOTEL RALEIGH

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WASHINGTON, D. C.

Navy's Largest Overhaul Shop



Initial bids have been received for construction of the Navy's \$1,000,000 airplane overhaul shop which has been planned for the new Naval Air Station at Jacksonville, Fla. The main building, an architect's drawing of which is shown, will be 625 by 520 ft. in size with a 65-ft. height and will accommodate 1,500 skilled workers, enlisted and civilian mechanics, according to Comdr. Carl H. Cotter, Navy engineer, detailed to Florida to establish the units of the Southeastern Naval Air Base in Duval and Brevard counties.

The Jacksonville base will become the overhaul center for the Caribbean aeronautical operations of the Navy and the plant will be the largest shop of its kind operated by the Navy. The shop will be located at a point near the landplane and seaplane hangars and will be, as are the other facilities for the station, designed to permit future expansion.

Architectural firm for the assembly and repair building is Robert and Co. Inc., Atlanta, Ga.



THAT OUR NATION MAY ENDURE

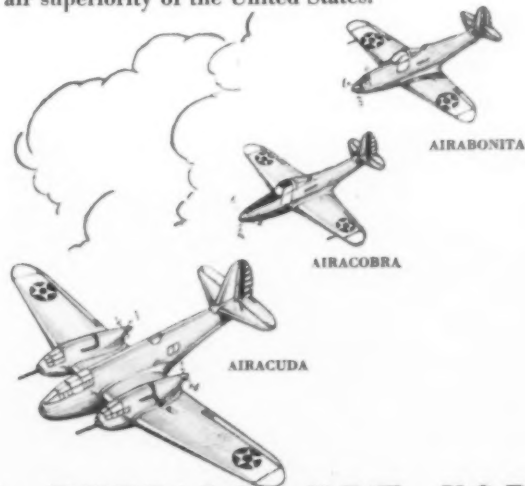
Rightly we revere the memory of the four great national heroes of Mt. Rushmore Memorial. And in paying this reverence, we offer a tribute no less fond to the millions of others who lived and worked that America might grow great and endure.

The spirit that has carried America forward through three centuries is a living, pulsing thing today. It balks not the least at the necessity of defending her from any possible encroachment. Zealously forging its armor, it now gives special attention to defense from skyward dangers.

In the Bell Airacobra P-39 Interceptor Pursuit Airplane, the United States Army Air Corps has provided our nation with a reassuring defense factor, whose tactical mission is the interception and attack of hostile

aircraft. The Airacobra furthers our Air Corps policy of supplying its units with superior aircraft.

The resources of the Bell Aircraft Corporation are joined with the knowledge and experience of the pilots in the service of our country to maintain the air superiority of the United States.



BELL

AIRCRAFT CORPORATION, BUFFALO, NEW YORK

Civilian Schools to Open Branches for Army Air Corps Pilot Training

In line with its program for the training of 7,000 pilots yearly, the War Dept. on June 22 announced that the nine civilian flying schools now being utilized for elementary instruction are to open branches to handle the Air Corps courses.

The nine civilian schools which will continue and the branches they will open are: Alabama Institute of Aeronautics, Tuscaloosa, Ala., to open facilities at Jackson, Miss.; Allan Hancock College of Aeronautics, Santa Maria, Cal., no branch; Chicago School of Aeronautics, Glenview, Ill., branch at Albany, Ga.; Dallas Aviation School and Air College, Dallas, Tex., branch at Ft. Worth; Cal-Aero Training Corp., Glendale, Cal., branches at Oxnard and Ontario, Cal.; Lincoln Airplane & Flying School, Lincoln, Neb., branch at Lakeland, Fla.; Parks Air College, E. St. Louis, Ill., branch at Sikeston, Mo.; Ryan School of Aeronautics, San Diego, Cal., branch at Hemet, Cal.; and Spartan School of Aeronautics, Tulsa, Okla., branch at Muskogee, Okla.

Graduates of the above schools and their branches will receive basic, advanced and specialized training at three Air Corps centers as follows: Gulf Training Center, with headquarters at Randolph Field, Tex.; Southeast Training Center, Maxwell Field, Montgomery, Ala., to be opened in September, and West Coast Training Center, Moffett Field, Cal., to be opened in October.

Gulf Training Center will continue operation of Randolph, Kelly and Brooks Fields, and in addition will open a new field at San Angelo, Tex., on Feb. 8, 1941. Approximately \$1,074,000 will be expended for construction of buildings and facilities at San Angelo and 870 officers and enlisted men and 200 students will be stationed there. The Gulf Training Center also will conduct a specialized school for the training of multi-engined combat crews.

Southeast Training Center will consist of Maxwell Field, the Montgomery Municipal Airport, Eglin Field at Valparaiso, Fla., and a field at Selma, Ala. Basic and advanced training will be conducted at Maxwell and Montgomery, involving \$1,000,000 construction and the stationing at those points of 1,135 officers and men and 350 students.

This training center will also give a specialized course in pursuit training at Selma, Ala., and Eglin Field, Fla. The course at Selma will begin Mar. 15, 1941. About \$1,250,000 will be spent for construction, and 850 officers and men and 165 students will be stationed there.

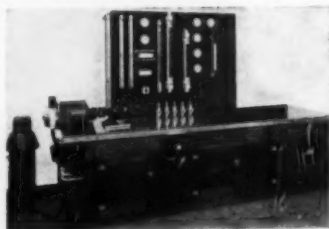
West Coast Training Center will include Moffett Field and a field at Stockton, Cal. Training at Moffett will start Oct. 19, 1940, and advanced instruction will begin at Stockton on Dec. 28, 1940. Construction at the latter field will amount to slightly over \$800,000. A total of 865 officers and enlisted men and 225 students will be stationed there.

Delivering Stearman Trainers
Deliveries are being made to the Army Air Corps of the PT-17 primary trainer manufactured by Stearman Aircraft Div. of Boeing Airplane Co., Wichita, Kan., the War Dept. revealed recently. A number of the trainers have been ordered under the Army expansion program.

Army Tests Nylon 'Chutes
An experimental order of parachutes made of Nylon, silk substitute, turned out by Irving Air Chute Co. Inc., is being tested for durability at Wright Field, Dayton, O., according to George Waite, president of the firm.

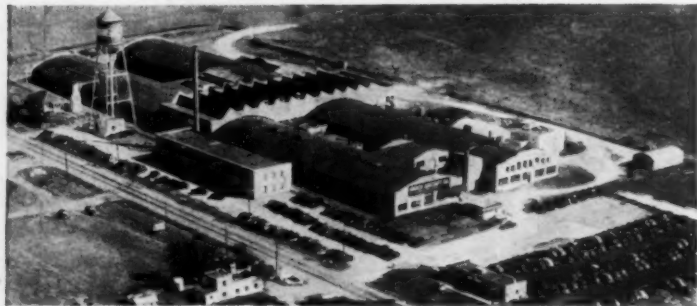
Data Released on C-45
The Army Air Corps has released data on one of its newest types of aircraft, the model C-45 twin-engine light personnel transport. The first units of this type have been tested and accepted by the Air Corps, and a number of additional transports are under construction by Beech Aircraft Corp., Wichita, Kan., in fulfillment of a \$485,764 contract.

Ordered by the Navy



The U. S. Navy has placed an order with Pump Engineering Service Corp., Cleveland, for a number of the new Pesco master test stands as illustrated above, according to Ralph H. McQuat, Pesco vice-president and general manager. Deliveries to the Navy are now being made to each of the 24 testing stations, including aircraft carriers at sea. The master test stand embodies a work bench on which is rigidly mounted a fixture to accommodate installation of interchangeable adapters and couplings for driving practically all types of aircraft pumps and accessories.

Site of Construction for Air Corps



Construction of a quantity of twin-engine photographic mapping planes for the Army Air Corps is going ahead in the plant of Beech Aircraft Corp., Wichita, Kan., which adjoins the company's airport, Beech Field. New administration and engineering buildings are seen in the foreground near the highway. Company's net delivered

sales for the first 23 days of June totaled \$295,694 a new record as compared with any like period. "Firm orders are sufficient to absorb present production facilities of the corporation for a full year, regardless of any developments in the international situation," according to the company.

Capital Notes

STRANGULATION OF THE AIR DEFENSE PROGRAM appeared tragically imminent through the hasty enactment of amendments to the Vinson-Trammell profit limitations law cutting the percentage of profits allowed on aircraft and equipment to a point so low that manufacturers feared they could not afford to accept government orders. Now there is hope of adjustment.

Unless relief is extended—as is now expected through the new excess profits tax bill—Sen. David I. Walsh of Massachusetts will have to shoulder the consequences of a devitalized air and ship defense force.

Specifically, the Senator maneuvered through Congress on the last crowded day before recess preceding the Republican convention, HR 9822 slicing profits on naval vessels and Army and Navy aircraft from 10 and 12 percent to 8 percent, or what was represented as 8 percent. In fact, businessmen of experience were quick to see and alarmed to realize that with usual deductions, such as federal and state taxes, this 8 percent would necessarily fall below any reasonable or practicable margin. Both Army and Navy officials and the National Defense Advisory Commission inclined toward a sympathetic understanding of the actual situation.

Representatives of the aviation industry assembled in Washington to assure the government that their viewpoint was based on cold business fact; that they are more than willing to assume their share in production for defense by accepting reasonable limitations on profits and by pressing their resources to the utmost to carry out the program. But simultaneously, they pointed out that the government too has a responsibility: that of devising laws and administrative regulations which will allow industry to operate. The problem is one not of patriotism, which is unquestioned, but of business economics.

Following a series of conferences over the past two or three weeks, in which all federal departments concerned, members of the industry, and the President himself participated, at one time or another, the White House announced that a new excess profits tax bill will wipe out the Vinson-Trammell law and place all industries on the same basis. Thus, if enacted, one hurdle may be lowered.

AMORTIZATION OF NEW PLANT costs, over a five-year period, will also be handled through this bill, representing a further step toward solution of the complex problem. Allowance of full amortization of new facilities for both Vinson-Trammell and income tax purposes, in the determination of contract cost was requested by the industry.

OTHER ITEMS OF COST properly chargeable against contracts according to manufacturers would include accelerated depreciation, research and development expenses, interest on plant expansion loans, reserves for self-insurance of liability and crash risks, certain legal and accounting fees, and losses on sales or disposals of equipment.

MANY OF THESE PROBLEMS appear now to have, at last, attracted the attention of administration leaders so that there is a prospect at least that Senator Walsh's law and certain departmental rules and regulations may be adjusted so as to accelerate and facilitate production, rather than penalize and stifle the industries from which the country expects superhuman results.

NINETEEN THOUSAND NEW PLANES will be added to the air forces through the second supplemental national defense appropriation, which also provides additional funds for private and Federal expansion of plants and manufacturing facilities and builds up a greatly enlarged standing Army and surface Navy. The Army is scheduled to receive 15,000 of the new aircraft, the Navy 4,000.

THE AIRPORT EXPANSION PROGRAM still hangs fire in both houses, with frequent mention of the desirability of establishing a coordinated landing field development project, but little action. If Congress decides to enact the pending McCarran-Lea bills, construction would be handled through WPA labor and funds under Civil Aeronautics supervision. Various groups are interested in pressing this proposal, including municipalities, aviation interests, and others who believe more and safer fields are demanded by the increased pilot training programs.

AN NACA SITE-SELECTION BOARD began a tour of various regions which might serve as location for the new aeronautical engine laboratory. If the committee has a site already in mind, this is one time when it has been able to guard the secret well.

United Aircraft Makes More Personnel Shifts

United Aircraft Corp. has appointed Charles H. Chatfield as executive assistant to the vice-president and Frank W. Caldwell as director of research.

Erle Martin becomes engineering manager of Hamilton Standard Propellers Division, succeeding Caldwell.

Joseph M. Barr becomes factory manager of Vought-Sikorsky Aircraft Division, succeeding E. H. Glaettli, assigned elsewhere.

William R. Robbins, now assistant general accountant of United, succeeds James J. Gaffney as assistant treasurer and assistant secretary of Pratt & Whitney Aircraft Division. Gaffney was named assistant treasurer and division accountant of Vought-Sikorsky.

BIG BREWSTER ORDER

Signing of \$26,572 Contract for Export Expands Backlog to \$48,628,000

Brewster Aeronautical Corp. has announced the signing of a \$26,572,000 order for fighters and dive bombers "for export," bringing its backlog to \$44,628,000.

May 31 backlog was \$18,056,000, contrasted with \$2,250,000 May 31, 1939.

Instrument Booklet Published
American Schaeffer & Budenberg Instrument Division of Manning, Maxwell & Moore Inc., Bridgeport, Conn. is distributing a 24-page booklet, "Aircraft Instruments," including design and dimensions of engine gauge units, engine thermometers, ice warning indicators, carburetor air thermometer, etc.

TRADE



MARK

Quantity Production of Military Aircraft is Here Today!

In the midst of confused ideas about so-called "mass production" of military airplanes, the American people may well take cognizance of an outstanding fact—quantity production of airplanes is a reality in this country now; mass production would be simply an extension of present methods.

Today American aircraft factories are producing airplanes by the hundreds. The industry knows how to produce them by the thousands and tens of thousands. When it is called upon for such quantities, then facilities and personnel will be expanded to meet the call.

With large orders and continuity of orders the aircraft factories can and will produce at any required rate. There will be economies of time and money. Materials will be produced in larger volume and fed into the airplane plants on more advantageous schedules. Meanwhile, straight-line quantity methods are at hand, available, elastic, ready to be expanded when the need arises.

THE GLENN L. MARTIN COMPANY, BALTIMORE, MARYLAND, U. S. A.

Glenn L. Martin
President



QUANTITY PRODUCTION calls for extraordinary engineering. The Martin Engineering Department is meeting the insatiable demands of mass production.



BUILT IN 11 WEEKS. This tremendous new Martin unit, with 440,000 sq. ft. of floor space was actually built and equipped in 11 short weeks.

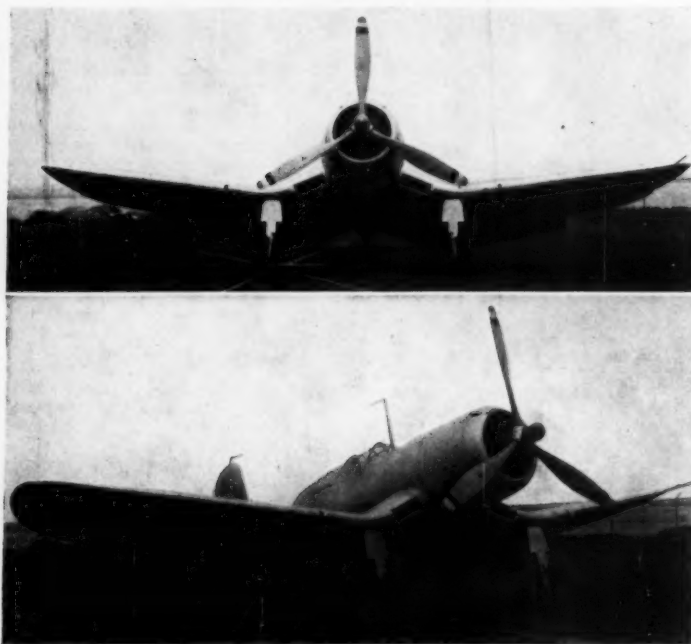


PIONEER ASSEMBLY LINE at the Martin Plant where already a remarkable total of large military aircraft have been produced.



GIANT SIZE. The world's largest door on the world's largest aircraft assembly floor at the Martin Plant.

New Navy Shipboard Fighter



Test Pilot Lyman Bullard has been engaged in initial flight testing of the latest type of shipboard fighter for the U. S. Navy, designated the model XF4U-1, a single-place single-engine all-metal monoplane manufactured by Vought-Sikorsky Aircraft Division of United Aircraft Corp. at Stratford, Conn.

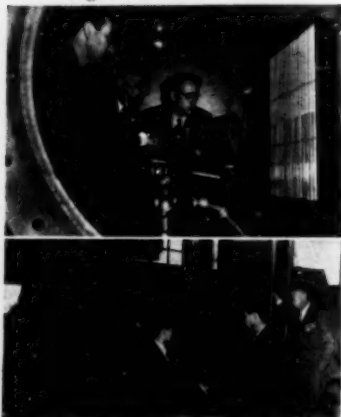
Fuselage is of monocoque construction embodying spot welding. Tail surfaces are monocoque all-metal construction. Wings are of single spar monocoque construction. In front view they present the appearance of an inverted gull wing. This provides low points on either side of the plane where the landing gear is attached and not only reduces weight of the landing gear, but facilitates stowage. Landing gear retracts into the wing.

the final closure being made by doors. Engine is an 18-cylinder Pratt & Whitney R-2800 two-row radial, rated at 1,850 hp. for takeoff, and capable of delivering 1,600 hp. at an altitude of more than 20,000 ft. A Hamilton Standard constant speed propeller is employed.

Gross weight is approximately 9,000 lbs. Ship has an approximate wing span of 40 ft. and an approximate overall length of 30 ft.

"In view of its highly confidential status no performance figures may be revealed at this time," a company announcement said. "However, it is safe to assume that performance of this airplane will be equal if not superior to similar types at present in use anywhere in the world," it was pointed out.

High-Altitude Chamber



Research engineers of Boeing Aircraft Co. have equipped themselves with a "strato-chamber" that can reproduce all conditions of high altitude flight for test purposes. This chamber, lower photo, is a three-ton steel tank divided into two compartments and equipped with air pumps, pressure controls, recording instruments and a dry-ice refrigerating plant.

Upper photo is a view into the portion of the chamber which simulates the interior of a high-flying plane. Inside the chamber Boeing engineer James B. Cooper (right) explains the operation of the device to Dr. W. Randolph Lovelace (left) and Dr. Walter M. Boothby of the Mayo Clinic. The two Minnesota doctors are famed for their development of the BLB oxygen mask for high-altitude flight.

New Application?

What is believed to be the first use of an exposure meter in aerial photography under actual photographic conditions was made by Ray Binger, A.S.C., in taking process shots for two United Artists releases, "Eternally Yours" and "The House Across the Bay." Binger used a General Electric exposure meter "on location" in photographing the scenes, which were taken at elevations of from 3,500 to 7,000 ft.

New Tube Tester

A new power tube tester has been developed by Harvey-Weils Communications Inc., of Southbridge, Mass., to facilitate taking accurate measurements of power and rectifier tube characteristics under variable load conditions. The tester, known as type R-83 was designed specifically for airlines and other organizations maintaining a relatively large group of transmitter installations, which must be kept at peak operating performance at all times. With the tester, new tubes may be accepted or rejected after delivery, and tubes in service can be checked at frequent intervals for correct performance, the company states.

AC Tests Steel Wing

A series of static tests on a stainless steel outer wing panel have been undertaken by the Army Air Corps at Wright Field, Dayton, O. In an attempt to develop structural parts in a material other than aluminum alloy at present in general use for such parts, according to the Air Corps News Letter. A number of the wings later will be installed on BC-1 service planes for observation as to ease of maintenance and repair.

New Jersey's 'Peculiar Situation' Reviewed by Wilson for Association

Attention is called to New Jersey's "peculiar situation" in the development of a state air program, occasioned by the necessity for considering two distinct metropolitan areas, portions of which lie in New Jersey and portions of which lie in neighboring states, in a memorandum to E. C. Morrow of the Regional Planning Association from Gill Robb Wilson, director of aviation for New Jersey.

Reference is made to the New Jersey-New York metropolitan area and to the south-central New Jersey-Philadelphia metropolitan area, and it is pointed out in Wilson's memo that the two areas require separate treatment. "Each involves cooperation between states and cooperation between neighboring municipalities, in separate states," the memo said.

"New Jersey is not willing to project the ultimate in a state airport program until in conjunction with its neighbor states and the federal government some correlated policy is established dealing with these metropolitan areas as separate problems. So vitally do these great metropolitan areas affect traffic flow in the air that their influence will extend out hundreds of miles in every direction across the country. Planning for traffic flow into them as seaboard terminals must start at least 500 miles away.

"The state of New Jersey must know

basically what long-range policy is to prevail in scheduled inter-state transportation before it is willing to invest in facilities which are essentially component parts of such a system.

"Furthermore, New Jersey is not interested in the development of inter-state traffic to the detriment of intra-state operation. Until New Jersey knows that her facilities are other than merely competitive facilities with neighboring states or neighboring municipalities, we are not prepared to enunciate an airport program dealing with interests other than intra-state," Wilson continued.

Declaring that the advantage of air transportation is still but dimly realized, Wilson stated that "unthinking people constantly speak of aviation as if it were a complete fallacy," he said. "Nine-tenths of the time that the average airplane gets off the ground it does not go beyond the bounds of the state from which it lies.

"In these local flights lies the prosperity of the community airport, the consumption of the fuel, the market of the light and medium class aircraft manufacturer, the training of the student pilot and by no means least, the enjoyment of the millions whose aviation experience is the local flight about the country-side."

Radio Controlled Seadrome Lights for Night Landings Reported by Mfrs.

Strings of rubber doughnuts serving as perches for fluorescent lights are now available to turn ocean harbor, lake port or river into a night landing aidrome for seaplanes, according to Westinghouse Electric & Manufacturing Co. which together with Firestone Tire & Rubber Co. developed the device in cooperation with Civil Aeronautics Authority.

The radio controlled lights are reported to mark a seadrome much as boundary and contact lights do on a land airport. For large seadromes several "runways" are planned on the

water so that a plane can always land between the lights and into the wind.

Lights are supplied in both the boundary and contact types. For operating economy, a fluorescent lamp is used, housed inside a fresnel lens for protection and for direction of the rays toward the approaching plane. Under favorable weather conditions these lights are visible for five miles.

Red boundary lights outlining the landing area are spaced at 1,000 ft. maximum, or if necessary, close enough so that the contour of shallow water or of an obstruction is clearly designated to the pilot. A flashing mechanism operating 120 times a minute warns both surface craft and planes that the enclosed area is reserved for seaplane landing.

Contact lights are available in red, gold and green, the gold color being used to mark the landing lane, and the red and green colors at either end of the channel to indicate wind direction.

The flotation gear, developed by Firestone, is shaped to withstand pounding of waves six feet high and is of molded flexible rubber with the resiliency necessary to meet recurring pressures induced by wave-action. The floats are striped, alternately chrome yellow and black.

There are two sizes of floating lights, the fixed base type being designed for permanent installation, and the portable unit being small enough for transportation to be used primarily for temporary air bases which might be required at remote points.

The Westinghouse remote control system is operative up to six miles from the seadrome units. It permits selection of the proper channel for landing, the indication of wind direction by the green and red lights, and the extinguishing of all lights when required. Each light unit has an individual radio receiver mounted inside the metal housing which also contains batteries and control equipment for the fluorescent lamps.

It is expected that the radio controlled seadrome will be found of significance for Naval night operations.



Successful tests have been made on the Anacostia River, Virginia, by engineers of Westinghouse Electric & Manufacturing Co., of radio controlled lights which may be used for landing lanes in harbors, lakes and rivers. The fluorescent lights, operated by batteries, have radio receivers in the bases of a mounting which is supported by an inflated rubber doughnut perfected by Firestone Tire & Rubber Co. The lights may be turned off and on by short wave shore station to guide seaplanes in for night landings.

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Testing Propellers at 50° Below

As stratosphere flying assumes increasing importance many new problems arise. It is essential that the operating characteristics of propellers under conditions of severe cold be definitely determined. In the Hamilton Standard Cold Room, designed specifically for this purpose, are found the answers.

Here for the first time, propeller mechanisms can be tested accurately and scientifically in temperatures as low as fifty degrees below zero. Seated in comfort at a control desk, an operator can vary the blade pitch and the speed of the

rotating hub to simulate actual flight conditions. Then, from the sensitive instruments assembled before him, he can detect the slightest variation in performance. And from his recorded data Hamilton Standard engineers obtain exact information as a guide to constant improvement in propeller design.

HAMILTON STANDARD PROPELLERS

One of the three divisions of
UNITED AIRCRAFT CORPORATION
EAST HARTFORD, CONNECTICUT





OFFICIAL U. S. NAVY PHOTOGRAPH

Watchdogs of National Defense

High over the California coast a formation of scout bombers makes an impressive picture of the air power of the United States Navy. These scout bombers, based on the Saratoga, are part of the fleet of hundreds of Vought-Sikorsky airplanes now serving fourteen different Navy squadrons.

VOUGHT-SIKORSKY AIRCRAFT



STRATFORD, CONNECTICUT

ONE OF THE THREE DIVISIONS OF UNITED AIRCRAFT CORPORATION

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Airports Cause Alaskan Accidents, CAA Reports; Operations Difficult

Fifty per cent of the aircraft accidents in Alaska are directly attributable to airport terrain, and 25% indirectly, with only 10 fields having landing strips of 2,500 ft. or more, according to a recent report of Marshall C. Hoppin, superintendent of airways for the CAA in Alaska.

The fiscal 1940 CAA program in Alaska is two-thirds completed and includes the first installation by the Authority of air navigation aids in the territory, Hoppin said. Six intermediate fields are being constructed and eight additional ones are tentatively scheduled, he added.

Discussing special operating problems, Hoppin's report stated that experience has shown that conventional cabin planes of medium size are generally most suited to the unusual conditions encountered in Alaska. Almost all planes are "beefed up" to withstand much greater shocks and loads than is likely to be encountered in normal operations, it said, adding that sturdy landing gear must be used because of landing facilities "much less than adequate." Skis are used in winter, pontoons in summer, with few planes having wheels.

"The low temperatures necessitate special engine cowl features, such as protective plates between the cylinders and in front of the carburetor, and heavy covers for the oil tank and lines," Hoppin said. "The carburetor air scoop is reversed so as to open to the rear and the carburetor and cabin are heated from the motor. It is sometimes necessary to reduce the propeller pitch because of the greater atmospheric pressure.

"In subzero operations, skis must be promptly placed on something to prevent their freezing to the snow, oil quickly drained and stored, and the engine properly covered. Starting may require from one to two hours, for the motor and oil have to be heated and the plane cleared of any snow or ice."

For cross-country winter flights, an Alaskan pilot must be supplied with a motor tent, heating stove for warming the motor under the tent, cans for draining oil, emergency tools, kit of repair materials, rifle, ax, matches in a sealed container, concentrated foods, snow shoes and sleeping bag for each passenger, and signaling devices.

Available weather service in Alaska is inadequate even for present operations, and should be expanded, the report said, pointing out that complete reports are needed because of insufficient landing fields.

Despite the fact that during the year ended June 30, 1939, the 175 Alaskan planes flew 3,232,931 miles, carried 29,699 passengers, 4,174,551 lbs. of freight and 544,874 lbs. of mail, there were only 127 aviation fields and 18 sea-plane ramps, platforms and floats in the territory, Hoppin revealed. Only 10 have landing strips of 2,500 ft. or more, and only one has two landing strips of this length, he said, explaining that the only surfacing provided is that found at the site, except

in a few instances where pit-run gravel has been used.

"Most of the fields are clearings 100 to 200 ft. wide and 1,000 to 2,000 ft. long, often without proper maintenance and usually rough and hazardous," he said. "None of the fields has boundary lights, obstruction lights, or flood lights, and the only two airport beacons are at Anchorage and Fairbanks. There are no public conveniences, such as administration buildings or municipal hangars at any of the fields. All hangars are privately owned and fully occupied, thus forcing the itinerant owner to stake his plane outside. There are sections where landing facilities for wheel equipment are 300 miles or more apart. Forced landings, due to weather and other conditions, are made under most adverse circumstances. In many cases it is impossible to salvage the plane, even though the passengers are able to walk out safely."

The 1940 CAA program in the territory includes installation of full-power simultaneous radio range and broadcast stations along a Ketchikan-Juneau-Anchorage-Fairbanks-Nome airway, Hoppin said. Six intermediate fields are being constructed, and the entire airway equipped with a point-to-point and ground-to-plane communications system. Seven of the radio ranges and broadcast stations are already providing daily weather reporting service at Anchorage, Cordova, Fairbanks, Juneau, Ketchikan, Nome and Ruby. At least four additional stations are to be located in the vicinity of Bethel, McGrath, Dillingham or Stillman Lake, and Kodiak. Other stations and fields are tentatively proposed.

At the time of Hoppin's report, the CAA staff charged with construction, maintenance and operation of the aids in Alaska numbered 41. It is being increased to 46, he said.

Distributing Bibliography

The Institute of the Aeronautical Sciences is distributing bibliography of engines, comprising parts 32, 33, 34, 35 and 36 of the bibliography series compiled by the WPA under its supervision. Parts 32 and 33 comprise two volumes listing published material on engines. Part 34 shows bibliographical references to engines by manufacturer. Parts 35 and 36, covering engine parts and accessories, and engine instruments respectively, were issued in December. Part 42 on plastics, and part 43 on metals and light alloys are finished and with their distribution the series of 50 volumes of the bibliography of aeronautics will be complete.

According to the Institute, the Library of Congress has prepared a subject index to aeronautical periodical literature and reports for 1939.

Bombardment Group Moves

The 29th Bombardment Group, consisting of 32 officers and 500 enlisted men, is being moved from Langley Field, Va., to MacDill Field, Fla., the War Dept. has announced. The group was organized at Langley in February.

Jacksonville CPT Unit



Members of the non-college Civilian Pilot Training unit at Jacksonville, Fla., including flight scholarship winners, were photographed recently at the municipal airport. Reading from left to right, they are: Strouby Lander, flight instructor; Vernon Pendell, William Stokes, Kenneth Richards, Ben Shields, Edmond Jared and Edward Knight, students; Charles R. Coachman, ground school instructor; Thomas C. Imeson, past president of the National Exchange Club, the group which sponsored the unit in Jacksonville; Jack Dunlap, Exchange Club flight director; Harry E. Cummings, Exchange Club secretary; Miss Ellis Dunsford, Louis Stinson and John Rollins, students, and Laurie Yonge, flight instructor.

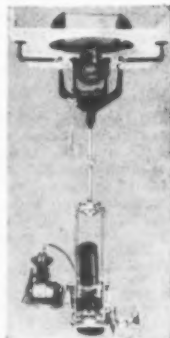
Non-Commercial Venture



A trip planned simply for fun, is sponsored by no one and isn't supposed to prove anything, is being made by Margie McQuinn (left), employed by Piper Aircraft Corp., and Alma Heflin, well known pilot and free lance writer, who departed in mid-June from Lock Haven, Pa., in Miss Heflin's 65-hp. Lycoming Piper Coupe for an Alaskan vacation.

Solar Navigator

The solar navigator, a precision navigating device developed by Fairchild Aerial Surveys Inc. and manufactured by Fairchild Aviation Corp., Jamaica, N. Y., is a combination sun compass and drift sight providing the photographic plot with a mechanical means whereby he can fly his plane along pre-established parallel flight lines which determine the percentage of lateral overlap in each photographic strip.



Proper functioning, it is reported, is not dependent upon other instruments, nor performance accuracy affected by changes in wind direction, magnetic variations or other troublesome factors commonly faced in aerial photography.

Since operation of the instrument is dependent upon sunlight, the dome over the clock must be installed in top of the airplane fuselage, permitting sunlight to strike the mirror which may be seen just above the clock. The air compressor shown at lower left of picture is needed for functioning of the gyroscope and may be fitted anywhere convenient in the plane.

Although only now released for general sale, the solar navigator has been used for the past five years in aerial mapping of some 100,000 sq. mi. in the U. S., Central and South America and in the South Pacific Islands.

Lear Opens Radio City Suite

William P. Lear, president of Lear Avia Inc., and his staff flew to New York City from Dayton, O., and other Lear branches one day last month to play host at a party for friends in the company's new suite of Radio City offices.

Takes Part in Mass Flight



A record flyaway delivery of 20 light planes on one order from Taylorcraft Aviation Corp.'s plant at Alliance, O., was made early in July in connection with the Civilian Pilot Training Program in southern California. The flight was under the direction of Russell Ross of West Coast Aircraft, Taylorcraft distributors. Among the group of pilots who flew the planes to California was Charley Miller (above), well-known one-legged pilot-salesman.

Lycoming's Quarter-to-Two Club



With a name derived from Lycoming's O-145 series lightplane engine, 45 employees of Lycoming Division of Aviation Manufacturing Corp., Williamsport, Pa. have formed the Quarter-to-Two Flying Club. Twelve of the members have joined. Pilot Lynn Probst gives instruction before and after working hours in the company's Lycoming Piper Cub trainer. Dudley King is the club's president; C. O. Samuelson, vice-president; George A. Levis, secretary; P. B. Martin, treasurer.

OPERATIONS IN ALASKA FOR THE FISCAL YEARS 1930-1939

Year Ending June 30	Planes in Service	Miles	Passenger Miles	Freight (Pounds)	Mail (Pounds)
1930	24	338,422	684,261	103,043	17,690
1931	28	381,234	947,695	161,718	
1932	31	742,854	942,176	496,690	
1933	42	1,059,153	1,222,510	634,016	151,570
1934	56	1,126,610	1,533,311	869,398	124,972
1935	73	1,685,654	2,148,692	1,496,917	225,840
1936	79	2,130,929	3,035,018	2,138,886	279,730
1937	102	2,209,206	4,021,799	2,947,728	264,201
1938	155	2,829,258	5,634,461	3,415,759	342,736
1939	175	3,232,931	5,260,524	4,174,551	544,847

¹ Mail and freight combined.

New Aeronca Chief Has Doubled Range

Designed for the sportsman pilot, the new Aeronca 1941 Super Chief, model 65 CA, is being manufactured by Aeronautical Corporation of America in its new plant at Municipal Airport, Middletown, O.

With 50% greater cruising range than earlier models, the new Aeronca is expected to appeal to flyers wanting a craft selling for less than \$2,000 which incorporates radio, transmitter and enlarged luggage space.

Width of the fuselage in the new Chief has been increased by four



inches. Height of the cabin has been increased and the doors are six inches wider. Visibility has been improved by the addition of two streamlined rear windows. The baggage compartment, having 8,910 cu. in. of space, accommodates 70 lbs.

Fuel capacity has been increased from 12 to 17 gallons for the standard installation.

The 65 CA is available with the Franklin 60-hp. engine, the Lycoming 65-hp. or the Continental 65-hp. A new muffler is said to effectively reduce noise of the engine exhaust.

Specifications and performance figures follow:

Top speed, 105 mph.; cruising speed, 85 mph.; landing speed, 38 mph.; service ceiling, 15,000 ft.; rate of climb, 600 ft. first minute; cruising range, 450 mi.

Gross weight, 1,250 lbs.; empty weight, 720 lbs.; useful load, 530 lbs.; wing loading, 7.40 lbs./sq. ft.; power loading, 19.23 lbs./hp.

Improved Contact Printer

Fairchild Aviation Corp. has designed an improved type of aerial roll film contact printer designated as model 58 which is equipped with a large number of small low wattage (2.5 watt) argon glow lamps which, according to the manufacturer, afford many advantages, chief among them being low electric power consumption, an even light distribution, faster printing and longer service life.

30 Mfrs. Show Wares to Hicksville Gathering

A total of 30 aircraft manufacturers demonstrated their newest planes to a crowd of approximately 800 at the Aviation Country Club of Long Island's annual demonstration air show on June 30 at Hicksville, L. I., N. Y.

Demonstrators who took part in the show, which was said to have been the most successful held to date, placed emphasis on maneuverability and slow flying characteristics, as well as on the general utility of their planes.

One of the highlights of the afternoon was a power dive executed by Connie Converse in a Grumman. Al Bennett, head of Bennett Air Service, also drew a round of applause for his one-wheel landings and take-offs with a Piper Cub.

In addition to the 30 demonstrators, numerous other planes were on exhibition, including United Air Lines' Boeing 247-D flight research ship, piloted by Capt. Bob Dawson, and the Sperry Lockheed Hudson flight laboratory, flown by Comdr. C. K. Wildman. One sailplane also was exhibited.

Approximately 75 children and a number of adults were given courtesy flights during the afternoon in a TWA Skyliner, flown by Capt. Jack Zimmerman. The TWA ship also was open for inspection. Many of the spectators at the show were given rides in various other planes following the initial demonstrations.

New Pre-Computed Tables Simplify Navigator's Problem

A new navigational aid to air and water transportation is a simplified method of determining position in terms of latitude and longitude in a few seconds and with an accuracy of one-tenth of a mile. The procedure, eliminating many involved mathematical computations, is based on the use of pre-computed tables which are being assembled by the Work Projects Administration in cooperation with the Hydrographic Office of the Navy.

Now using the navigation tables are the Navy, Coast Guard, Army Air Corps, the Coast and Geodetic Survey and Pan American Airways which has adopted the method on its routes to Europe and the Orient. While eight months were normally required to develop facility in navigating, it is estimated that with "Tables of Computed Altitude and Azimuth" the training period can be reduced to about six weeks.

The Cadet, for CPTP Operators



A production schedule of 600 planes in the first 12 months has been set by officials of Interstate Aircraft and Engineering Corp., El Segundo, Cal., for their new lightplane, the Cadet, said to be the first craft designed specially for operators engaged in the civilian Pilot Training Program.

Details of the Cadet, a two-place tandem ship, were given in AMERICAN AVIATION, May 15. Powered by a Continental 50- or 65-hp. engine, the craft's standard equipment includes a shock-absorbing steerable tailwheel connected directly to the rudder pedals by means of flexible cables having compression springs.

With the 50-hp. engine the Cadet has maximum speed at sea level of 105 mph.; sea level cruising speed is 95

mph.; landing speed, 34 mph.; service ceiling 13,000 ft.; rate of climb, 500 ft./min.; cruising range, 425 mi. Performance with the 65-hp. engine follows: Maximum speed, 114 mph.; cruising speed, 100 mph.; landing speed, 36 mph.; service ceiling, 15,000 ft.; rate of climb, 700 ft./min.; cruising range, 375 mi.

Interstate Aircraft and Engineering heretofore has specialized in the manufacture of hydraulic units and precision parts for aircraft manufacturers. Don P. Smith, former general manager of Vultee Aircraft Inc., is president of the company, W. E. Hirtenstein and L. B. Cameron, both former Vultee executives, are vice-president and secretary-treasurer, respectively.

The Experimental 'Pluver'



First photo of "The Pluver," which will be ready for TC tests within about 30 days, has been released by Aviation Industries Inc., Wichita, Kan., builders of the 758-lb. experimental ship.

With a speed in level flight of 150 mph. and a landing speed of 47 mph., the new ship is powered by a Continental 75-hp. engine and has a cruising range of 500 miles. Length overall is 18 ft. 6 in.; height, 7 ft. 2 in.; wing span, 30 ft. 5 1/2 in.; steel tube spar with aluminum ribs. Gasoline tanks are in the wings.

Visibility is emphasized inasmuch as it is possible for the pilot to see within

a few feet directly in front while in a taxiing position. A new type elevator and aileron control is used which operates by a forward and backward tilting of the wheel, instead of the usual pull-push operation. Fuselage is of a V structure.

New Seaplane Dolly

A new dolly, designed to protect seaplane floats and simplify transportation of the plane to and from the hangar, has been placed on the market by Service Caster and Truck Co., Albion, Mich.

C. A. A. ACTIONS

(Pilot Certificates, Letters of Authority, Publications, Miscellaneous. For Airline Regulation, See Air Carrier Record. Serial Numbers of Orders and Dates in Parentheses.)

PILOTS

Revocations

Louis S. Hatzfeld, Rye, N. Y., commercial pilot certificate 34149 revoked for piloting an aircraft at an altitude less than 500 ft. above open water in violation of the Civil Air Regulations. (June 28, 566).

Referred to Dept. of Justice

The CAA has referred the following cases to the Attorney General for judicial action on violations of the Civil Aeronautics Act and the CAR: (June 28, 567), Alfred W. Dunagan, Blythe, Cal., for piloting an aircraft on a civil airway without being possessed of a valid pilot certificate, and other violations; (June 28, 568), Herbert Rayner Jr., Louisville, Ky., for piloting an aircraft on a civil airway without being possessed of a valid pilot certificate, and other violations.

Civil Penalties

The following orders in compromise of civil penalties for certain violations of the Civil Aeronautics Act and the CAR have been accepted: (June 28, 569), Franklin Hurst, Somerset Pa., for piloting an aircraft on a civil airway without being possessed of a valid pilot certificate, and other violations \$50.00; Edward F. Knight, Toledo, O., for piloting an aircraft on a civil airway after the airworthiness certificate of said aircraft had expired, \$50.00; (June 28, 570), Gordon J. Alves, South Euclid, O., for piloting an aircraft on a civil airway at an altitude less than 1,000 ft. over a congested area, \$50.00; S. D. Mendenhall, Edwardsville, Ill., for piloting an aircraft on and across various civil airways when said aircraft was not possessed of a valid airworthiness certificate and when he was not possessed of a valid pilot certificate, \$100.00.

Show Cause

Edward C. Watson Jr., San Carlos, Cal., directed to appear before an examiner and show cause why his aircraft and engine mechanic certificate 11179 should not be suspended or revoked. (June 28, 565).

Civil Air Regulations

Amendment 59 of the CAR has been adopted, requiring authorization for foreign and overseas flights. (June 18, 91).

Harlow Company Buys Interest in Porterfield

Harlow Aircraft Co. of Alhambra, Cal., through negotiations by its president, J. B. Alexander, and H. F. Keenan, chairman of the board, has acquired one-third interest in Porterfield Aircraft Corp., Kansas City, Mo., and has made plans to produce a small all-metal lightplane by the combined concerns.

Ownership of the Porterfield concern is divided between E. E. Porterfield Jr., president, and his wife, owning one-third, Harlow owning one-third and stockholders the other one-third interest. Company has an authorized capital of 500,000 shares.

The deal, consummated by Porterfield, Alexander and Keenan, calls for no immediate change in Porterfield production, now nearing 10 units weekly. The inexpensive lightplane will not go into production until 1941.

Porterfield at the same time said he was contemplating expansion of his plant by acquiring additional factory space in western Pennsylvania, and a third plant in Los Angeles County, Cal.

Silent Muffler Inspected

Now under inspection by the Civil Aeronautics Board is the new Diehl Silent Muffler for aircraft engines manufactured by Diehl Laboratories Inc. of which William Diehl Jr. is president. Company's engineer is Larry Beck.

Blaine Joins Lewis School



Blaine

Lewis School of Aeronautics formerly was known as Lewis Holy Name School of Aeronautics. Blaine goes to Lewis from Edison General Electric Appliance Co. Previous to that, in 1933-34, he was with United Air Lines.

NEW PIPER CUBS FOR '40

Engineered with Goodrich Landing Safety—



1940 PIPER CUB COUPE . . . Full-pressure cowling . . . engine muffler . . . and increased speed are among the many new features of the 1940 Piper Cub Coupe. Styled inside and out by a well-known industrial artist, this plane is a new conception of how the small airplane can be designed along automobile lines.

Goodrich Tires and E.T.* Brakes Give Smoother, Safer Landings to Thousands of "Cub" Owners

In making low-cost flying available to thousands, Piper Aircraft Corporation is performing a lion's share in convincing America that "it pays to fly."

And safety is one of the big reasons for the ever-growing popularity of the "Cubs"—safety that is once again demonstrated in both the design and equipment of the new 1940 models. Because Piper is critical of landing safety "Cubs" have the extra-safe landing control of Goodrich Airplane Silvertowns combined with the new smoother-act-

ing Goodrich E.T.* Brakes.

Remember, Goodrich Aviation Products include everything from tires, DE-ICERS and brakes to the smallest grommet . . . more than 40 products for planes whether designed to carry one person or fifty. Write The B. F. Goodrich Co., Aeronautical Division, Akron, Ohio, for complete information.

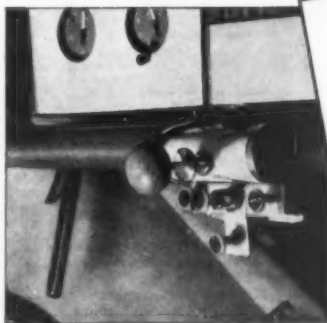
*Goodrich Expander Tube Brakes are manufactured under license and sold by Hayes Industries, Inc., Jackson, Mich., and Bendix Aviation Corp., South Bend, Indiana.



NEW PIPER CUB "CRUISER" . . . latest addition to the famous "Piper" line. Like the Piper Cub Coupe, the "Cruiser" is equipped for safe, smooth landings with Goodrich Airplane Silvertowns and E.T.* Brakes.

FULL AUTOMOBILE-TYPE PARKING BRAKE

Along with many up-to-the-minute interior features . . . such as finger-tip instrument grouping . . . two-tone upholstery and chromium-plated control sticks . . . the Piper Cub Coupe offers a full automobile-type parking brake located under the instrument panel for added convenience and security.



IT PAYS TO FLY
and it pays to take off
and land on Goodrich
Airplane Silvertowns
>>>> the safest airplane
tires ever built



Goodrich Airplane Silvertowns

THE SAFEST AIRPLANE TIRE EVER BUILT

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Two-Place Sailplane in Production



The plant of Schweizer Aircraft Corp., Elmira, N. Y., is jigged up for production on the two-place sailplane, model SGS 2-8, to which Type Certificate No. 5 has been assigned. The new Schweizer is said to be the only approved sailplane being manufactured, and the only one approved under the CAA.

The plane is of the shoulder wing type. Wings are braced with single streamline struts which result in simplicity and ease of assembly. Fuselage is made of welded steel tubing, and fuselage, tail surfaces and rear portion of the wing are fabric covered. Horizontal surfaces are cantilever and are

damped for stability and hands off flying.

Data on the SGS 2-8 are given as follows:

Span	52 ft.
Wing area	214 sq. ft.
Weight (complete)	460 lbs.
Aspect ratio	12.6
Wing loading (2-place)	3.9
Wing loading (1-place)	3.0
Min. Sink (2-place)	2.5
Min. Sink (1-place)	2.2
Gliding ratio	23.5
Tow speed	70

Licensing work on Schweizer's all-metal Utility, model SGU 1-7, is under way. Details on this craft will be released at a later date.

New Franklin, With Starter, Awarded TC

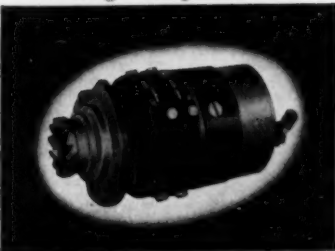
Aircooled Motors Corp., Syracuse, N. Y., has announced its new four-cylinder Franklin 80-hp. aircraft engine, model 4AC-176, with a light-weight Electric Auto-Lite, 6-8 volt, starter and generator assembly available as optional equipment. Complete equipment includes electric starter with solenoid switch, engine-driven generator with two-stage voltage regulator and automatic cut-out.

Model 4AC-176 recently was granted Type Certificate No. 221 with a rating of 80 hp. at 2,500 rpm. Approval also covers the electric starter and generator.

The new "80" makes Franklin engines available in 50, 60, 65, 75 and 80 hp. Weight of the 80 complete with dual magnetos and starter and generator assembly is 198 lbs. With dual magnetos but without the starter-generator assembly—170 lbs.

The new Franklin is available with either a five or eight-quart oil sump, the latter adding two pounds to the gross weight of the engine. The engine is 30 1/4 inches wide; bore is 4 in., stroke 3 1/2 in. It cruises at 2,300 rpm.

For Engines Up to 100 HP



Eclipse Aviation Division of Bendix Aviation Corp. has announced release of a new type 635 direct cranking electric starters for aircraft engines up to 100 hp. for domestic and export sale. Similar in construction to the Eclipse direct cranking electric starter, these units incorporate an integral torque overload release with automatic engaging and disengaging device to avoid damage to starter or engine if the engine backfires.

S. Cal. Stinson Dealers Adopt Uniform Name

Stinson Flying Corp., southern California distributors for Stinson airplanes with headquarters at Glendale, has announced appointment of six new dealers in that territory. Each dealer operates under the uniform name of Stinson Flying Co.

Dealers appointed to date: Dietrich & Smith Flying Service, now operating as Stinson Flying Co. of Los Angeles; Spencer & Pignet, now operating as Stinson Flying Co. of Santa Monica; Paul Mants, operating as Stinson Flying Co. of Burbank; American Air Academy, operating as Stinson Flying Co. of Van Nuys; P. M. "Skip" Tibert, operating as Stinson Flying Co. of Oxnard, and Charles Sproule, operating as Stinson Flying Co. of Imperial.

Standardization of dealers' names makes possible an extensive sales promotion program carried on by the distributor and Stinson factory.

Al Lary is sales manager of Stinson Flying Corp. Associated with him is Herbert W. Hartley, president of American School of Aircraft Instruments. Miss Yolanda Spirito is located in the corporation's Glendale office.

New RCA Receiver Listed

New addition to the line of light-weight communication equipment is the AVR-20 aircraft receiver designed by RCA Manufacturing Co. Inc., Camden, N. J. to operate in connection with the AVT-15 transmitter and especially suited to military command or plane-to-ground communication. Tunable through a range of 2300 to 6700 kcs., the receiver provides for crystal controlled reception on any two frequencies within these limits. A beat frequency oscillator offers CW reception. List price of the AVR-20 with tubes but without crystals, headphones, power unit and interconnecting cables is \$125.

Bowlus Soaring Club Bulletin

A bulletin entitled "Preliminary Suggestions on Organizing a Bowlus Soaring Club" is available from Bowlus Sailplanes Inc., San Fernando, Cal. Suggestions are offered for the selection of members, picking a soaring site, initial club investment, instruction and guidance, and pre-organization meeting.

AOPA Offers Flying Club Plan for 20 on \$3,256 Budget

Example of the Aircraft Owners and Pilots Association flying club programs (discussed in "Pro, Con and Otherwise," AMERICAN AVIATION, June 1, 1940) is plan No. 20 designed for a group of 20 using a 50-hp. trainer at a total first year cost of \$3,256, including \$1,338 for the plane and \$1,918 for financing, gas and oil, repair and overhaul, hangar storage, delivery charge and reserve fund for minor losses.

Initial membership assessment is \$27.80 and monthly dues \$5.00. Dual flying charge is \$3.50 an hour, solo flying \$1.50, with 17 hours of dual instruction recommended.

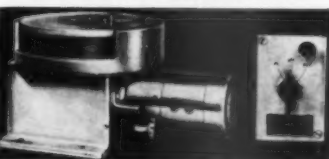
Total cost for operation of the plan in the second and in subsequent years is \$2,100. Starting in the second year a reserve fund of \$400 is set aside annually for aircraft replacement.

New Managers



Planning an extension of facilities of Southwest Airmotive Co., Lové Field, Dallas, Tex., formerly Booth-Henning Inc., are three of its new officers (l. to r.): Tom D. Park, president; R. A. Ritchie, secretary; Dallas Rupe, vice-president. They joined the firm recently when capitalization was increased by \$126,000. Frank Say, who has been superintendent of the engine, instrument, radio and propeller overhaul division for years, will remain in that capacity, and Arthur E. Tacey, in charge of engineering and repair, continues in the same capacity.

Lear's New Antenna Reel



With a single switch and mechanical counter, the new Learadio automatic antenna reel, powered by a fool-proof motor, supplants a disturbing number of manual operations and the worry attendant upon them. The device may be located in any part of the plane and operated by remote control from a small panel. A red warning light flashes the instant the reel is set in motion and remains on until the wire is returned to its housing. Manufactured by Lear Avia Inc., Roosevelt Field, Mineola, N. Y., the unit consists of four parts: motor, clutch, aluminum housing and antenna reel.

Pacific Aviation Club Moves to New Home



Headquarters for many activities of the aviation fraternity were established July 1 when the Pacific Aviation Club, under supervision of Pilot Land Corp., moved into its permanent home at Santa Monica, Cal., on the beach front. The former hotel building, a \$1,250,000, eight-story structure is now the home of an organization made up exclusively of persons directly identified with aviation.

This is believed to be the first organization of its kind and is being operated on a non-participating basis in that members incur none of the debts or obligations of the club.

In addition to becoming the permanent address of many southern Californians and the temporary quarters of visitors, PAC becomes the site of numerous social functions and meetings of the industry held in that section of the country.

The club boasts officers and directors from the leading branches of the industry.

9 Planes, Hangar Burn

Fire destroyed nine monoplanes and a metal hangar at Cedar Rapids (Ia.) Airport recently causing damage estimated at \$30,000, most of which was covered by insurance.

Aeronautical Charts

New editions of aeronautical charts are now available from the U. S. Coast and Geodetic Survey, Washington, D. C., and from recognized dealers at major airports. Pilots are warned not to use old charts when new editions are available.

Regional charts, a series of 17 scaled at 1:1,000,000, sell for 75c; direction finding charts, a series of six scaled at 1:2,000,000, sell for 75c; sectional charts, a series of 87 scaled at 1:500,000, sell for 40c each. On orders grossing \$10 or more, including assortment, there is a 13 1/3% discount.

New Edition of Regional Aeronautical Chart

9-M. May 1940. Size 26 x 43". Located in latitude 38°-44° north and longitude 78°-90° west, covering an area of about 250,000 sq. mi. Includes an accumulation of changes since the last edition.

New Editions of Sectional Aeronautical Charts

PHOENIX, Apr. 1940. Size 20 x 46". Located in latitude 32°-34° north and longitude 108°-114° west, an area of some 55,000 sq. mi. Addition of civil airways and an accumulation of other changes since the last edition.

TWIN CITIES, May 1940. Size 18 x 39". Located in latitude 44°-46° north and longitude 90°-98° west. Covers an area of about 47,000 sq. mi. New radio range at Wilmar, beacons added on the new lighted airway, Huron to Minneapolis, and civil airways added.

BIRMINGHAM, Apr. 1940. Size 20 x 46". Located in latitude 32°-34° north and longitude 84°-90° west, covering an area of about 56,000 sq. mi. Civil airway added, and an accumulation of changes since last edition.

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The Birdmen's Perch

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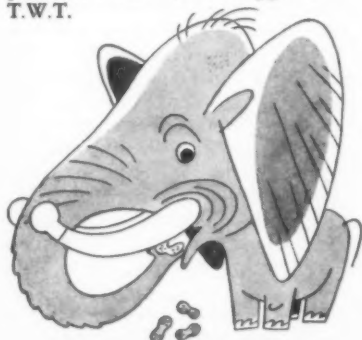
MAJOR AL WILLIAMS, Mgr. Gulf Aviation Products,
Gulf Building, Pittsburgh, Pa.

IN THE EDITOR'S MAILBAG

recently, were . . .

Russell Riddick; Gene W. Bichon; Donald Christopher; Robert M. Hensley; George S. Jamieson; Edward Cook; Henry Feiertag, Jr.; Eddie Togue; Noel Humble; Troy L. Holder; Raymond Bell; Alvin Werner; P. C. Roche; Paul Sanford; Allen F. Edwards, Jr.; Joe McGwigan; Bob Ball; Jack Gambold; James Wellman, Jr.; Bob Hunter; Louise Ritzman; Rudolph Burda; J. J. Peck; A. R. Metcalfe; W. G. Benn; Francis A. Downing; G. J. Harrington; "Happy" Huntsman; George R. Lusink; Jacob Gassler, Jr.; Hal Groom; W. F. Mathias; Lionel E. Faulkner; Doug Gawne; George W. Prediger; Thos. Grace; F. O. Jordan; Dick Barton; "Doug" Moore; Bill Horr.

To all—thanks for your whoppers, puzzle solutions, and suggestions—T.W.T.

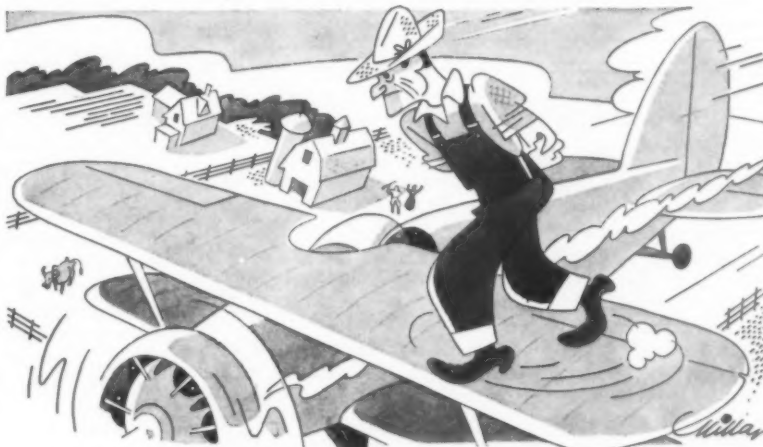


SOME'P'IN LIKE PEANUTS

You can buy peanuts three ways. In the shell. Shelled, but with that inner paper-like covering left on the kernels. Completely shelled—inner skin and all—so that every pound is 16 full ounces of eating enjoyment.

Inevitably enough, the same goes for oil. You can buy crude oil—if you want. You can buy ordinary oil, refined by conventional methods.

And you can buy Gulfpride Oil, refined both by aforesaid conventional methods and by Gulf's exclusive Alchlor process. That's the extra refining step that removes up to 20% more dirt and sludge . . . helps 100% Pennsylvania Gulfpride pass all Army and Navy tests in a breeze



. . . makes every quart 32 full ounces of super lubricant.

CIRCUMNAVIGATORS' SPECIAL

Suppose the earth to be perfectly round and the equator to be a steel ribbon fitting closely around it. If you added 12 inches to the length of the band, how much would the ribbon stand off the surface all the way around?

(This is a problem what is a problem. Send your answer to T.W.T. for checking. But—even if you don't know where to begin—drop a card for the official solution. It'll floor you!)

THIS MONTH'S WHOPPER

Dear Major:

Couple week ago one of them air-plane fellers from the County Seat come high-tailin into the south pasture, scared our cow Bessie close to death.

Me, I run a fillen station on the side. Kinda calculated to collect a little folden money from the young fool. He was a slick one though, didn't need no petrol, just wanted to sell Ma and me a ride. Claimed my gas weren't no good, and that he was burnin that Gulf Aviation Gas. Been to the City a few times, and heard tell of the stuff, so I traded my Barred Rock Rooster and the dollar I owed the mail order house for shoes so he'd ride me in the durn thing.

I put on my winter underwear, and Ma dug out the picture box while he started the contraption. Fust off, he let me sit in that cock-pit place so Ma could get my photoee-

graph. Ain't one to meddle, felt kinda week though so ups and leans on that door knob jigger named Throttle. Plumb nye blew me out of my seat, grabbed for some kinda hand hold, all there was in sight was a sawed-off pitch fork handle sticken up from the floor, got it next time she come by. Spect that made her go up cause my barn moved over, and Bessie scattered the haystack for me. Been busier than one of them City Swing Band Drummers, at a jam session ever since.

How, I come to write you this letter is, that I figgered that cause you make this G.A.G. maybe you can calculate how much longer I got to stay up here fore this durn flyin machine runs out of gas.

Gettin mighty hungry, and want to get down fore I starve to death. Would have died of thirst if it hadn't rained couple nights back. Please let me know soon as you can, cause I gotta be down in time to help with the harvest this fall, besides, that Airplane feller is getting kinda impatient, He come nye ventillatin me with a twelve gauge yestiday.

IM-Patiently Yours,
(signed) Bob Renick

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Fortnightly Review

(Continued from page 1)

of the United States is a mere puppet, a man who knows nothing about aviation and who hasn't any power to do anything even if he did know. He can't exert leadership unless he asks some one if it's all right and chances are he's guessed wrong as to the answer anyway. In the week or more that the Administrator appeared on the job he blundered into one situation after another—a bitter and ironic chapter to the glories of civil aviation in the United States.

As for the new Assistant Secretary of Commerce, Robert H. Hinckley, there is no doubt that Mr. Hinckley has already made his mark. He has made the greatest, sweetest and most grandiose mess out of civil aviation that any man could do in such a short time. The former Mormon teacher and mayor of Mt. Pleasant, Utah, has been a huge and vast disappointment. He has made a sham out of the one agency which is so needed right now to exert constructive leadership for civil aviation.

It is inconceivable that in such a short time the strong framework of the independent Civil Aeronautics Authority could have been razed to the shambles it is in today. But there it is. To the many thousands of fine men who have devoted their lives and sacrificed everything else to push civil aviation another notch up the ladder, it is indeed disheartening to find civil aviation's governmental agency in the hands of a wrecking crew that has torn down in a month's time what had taken so long to build up.

We have tried to be fair to Mr. Hinckley. We have given freely of plaudits for his leadership in the Civilian Pilot Training Program. We have tried to believe that the former automobile dealer of Utah would exert genuine, solid, constructive leadership. But the hopes have been in vain. Even when he deserted his colleagues on the five-man Authority by completely reversing his position on reorganization after an hour's visit in the White House, we still thought there must be a meritorious reason—somewhere—for this sudden change.

The time has come to recognize certain unalterable facts. The Civil Aeronautics Authority is not a plaything of intrigue, is not a means of getting petty revenges, is not a political football, is not a stepping stone for political ambition. He who thinks it is any of these things cannot last long in a position of power.

The Civil Aeronautics Authority is an important, vital, government agency for the regulation and promotion of aeronautics. An industry of airlines, of manufacturers, of fixed base operators, of pilots, schools and mechanics, demands the respect of this agency. It expects mature judgment, it expects efficient administration, it expects constructive leadership.

The sole question now remains how long Mr. Hinckley will continue the comic opera. His organization has disintegrated. He is not respected anywhere down the line from top to bottom. In such a chaotic condition it is just a matter of time until Mr. Hinckley himself—or the White House—realizes that the fun of intrigue and maneuvering is over and steps quietly out of the way of aviation progress. Private business won't put up with this buffoonery much longer.

One Million Dollars

IT IS ESTIMATED that well over one million dollars has been invested by air transport companies in applications, preparation of cases and hearings before the Civil Aeronautics Authority—without any decisions. W. A. Patterson, president of United Air Lines, is outspoken

in calling the CAA a bottleneck. In common with business men all over the country, and especially in the air transport industry, he is becoming fed up with sloppy and inefficient government administration. No government agency has the right to tie up a million dollar investment by any industry without coming to forthright decisions. Only in recent weeks, after endless prodding, has the Authority shown disposition to clear its choked dockets. But it has a long way to go.

We have had alibis, we have had excuses, we have had the reasons explained in painful detail. But the Civil Aeronautics Authority—now known as the Civil Aeronautics Board—has no real justification for making a mockery out of sincere private enterprise.

Four members of the Board have been handicapped, it is true, by a chairman who spent his time on every conceivable activity except economic regulation. Men of intellectual honesty usually resign from positions in which they have no interest or conscientious application. The CAA chairman did not. But even so, this would appear to be no excuse for the majority of four to keep its economic regulation apace. A million dollars is a lot of money even if it is only a pittance to a spendthrift administration. The air transport industry has moved forward in spite of the CAB handicaps and if the CAB does not soon become aware of its responsibilities, it is likely to become the object of the most painstaking investigation.

Military or Commercial?

THE PRESIDENT has proposed that the United States spend \$4,000,000,000 on a "second" Naval fleet. All of which is evidence that it takes years, decades, generations, for the power of the airplane to become recognized in high quarters. One quarter of this money—\$1,000,000,000—spent on long range combat and transport airplanes would be of far more use to this nation's national defense than even twice the proposed sum spent on obsolete sea craft. It is a shameful waste of the public's money.

Our national defense program is now high in the billions of dollars. What a contrast, therefore, to find the Civil Aeronautics Board so reluctant to recognize the need for an expanded air transport system. Here is the genesis of air power, clearly demonstrated by Germany and other countries. Here is the means by which a public service can be performed while training and preparing for national defense. But the CAB continues to waddle along in arguments about fractions of a cent, side-stepping all dynamic public and political issues, with eyes trained to the ground instead of the skies.

We sincerely regret to say that one of the most retarding and negative influences within the CAB is Edward P. Warner, whose appointment to membership was so widely hailed by ourselves and others. His confining narrow views have had, unfortunately, a dominating influence on at least three of his colleagues, for Mr. Warner is, above all things, erudite and learned. But mere gushing of academic phrases does not always—and certainly not in this instance—mean constructive leadership. And if the CAB is lacking in anything today it is constructive leadership. It is light years away from getting on the high road. It has not only misconceived its duties and responsibilities under the law, but has failed to provide the constructive leadership expected by America's most vital transportation industry and one of the most important arms of the national defense.

The CAB has not only had a chairman noted for run-out powders, but has been heavily laden with a fear to act progressively. The cost of expansion of our air services is indeed relatively small when contrasted with vast expenditures for other items. What the CAB evidently fails to realize is that this expansion cost would be an investment. It will probably take an explosion of some sort to blast the CAB out of its retarding and dilatory frame of mind.

Mr. Willkie Flies

A NEW ERA has opened up for aviation. We actually have a presidential nominee who uses airplanes to get places—a practice which will doubtless captivate the American public. Mr. Wendell Willkie, the Republican nominee, is a business man who evidently does not intend to waste time by slow methods of travel. This will be a great boon for air transportation and airports. For the first time in American history crowds will gather at airports to see a Presidential candidate and the novelty is, to say the least, very appealing. Our congratulations go to Eastern Air Lines for being the first carrier to transport Mr. Willkie since his nomination, and to United Air Lines for selling the charter ship for the Willkie party from Washington to Denver. We doubt if the industry or the public is yet aware of what it will mean to have a leading figure such as Mr. Willkie flying the airways. We predict brighter days for aviation, for no man who does not fly in these times can in any way appreciate the value of air transportation and the use of the airplane.

Folks Worth Meeting—

ONE cannot grow up in a seaport without becoming full with dreams of sea voyages and a desire to see what is in the far beyond. It happened to many boys in a town situated where



Theilig

the Baltic connects with the North Sea through the narrow straits which separate Sweden and Norway from Denmark. It happened to J. Herman Theilig who was born there in 1900.

Theilig is now manager of the agency and foreign department of American Airlines, but in 1919 he was sailing before the mast. His first ship was a small schooner of 60 tons, but he saw to it that with each succeeding voyage, he got on larger vessels. They all sailed under flags of Scandinavian countries.

As it became more and more difficult to find sailing ships, Theilig had to take to steamers. In the fall of 1933 he signed on a steamer bound for the West Indies, Mexico and a port in Texas. He had an idea of what might happen and his hunch turned out to be right: the ship had to sail from the Texas port back to its European destination without him.

Enters Sales Work

After working for a number of months on a dredge, during which time he enrolled in a number of correspondence schools, and particularly studied in English, he went ashore and got into sales activities, later managing and organizing sales crews, opening new territories and developing sales appeals for different types of products.

Theilig's background in travel gave him a good break. When he landed in Indianapolis he became connected with the foreign department of the Merchants National Bank, one section of which was a travel service bureau. From Indianapolis he went to Chicago where he took over the travel bureau of the Central Trust Co.

With American in 1933

In Mar. 1933 he joined American Airlines. It was Lew King, AA sales manager in Chicago, with whom he had his first conversations about the value of general travel to aviation. With King's recommendation and the cooperation of Charles A. Rheinstrom, vice-president in charge of sales, a travel bureau was organized in Mar. 1933.

Activities increased step by step. They established men at the piers in New York to meet arriving steamship passengers and make their air arrangements. They established an air tour department. Next they formed an agency department for the purpose of systematizing cooperation with agents and of finding ways and means to aid them in making air a new source of revenue for them.

Foreign Dept. Started

The foreign department was formed to cover the rest of the world with literature and establish contacts with agents in other countries. As a part of this program general agents were appointed in various parts of the world which required Theilig to make occasional trips to Europe.

Commenting on his activities with American, Theilig said: "This work has been most interesting and has enabled me to make interesting trips, meet interesting people and make a good many friends who are vitally interested in aviation. For instance, I made a round trip on the airship Hindenburg in 1936

which was only about 15 years after I had rounded the Horn sailing before the mast on a square-rigged windjammer."

Aero Bookshelf

THE METEOROLOGICAL GLOSSARY: Third Edition; First American Edition; Chemical Publishing Co. Inc., 148 Lafayette St., New York, N. Y.; 250 pp.; \$3.

Said to be the most complete work of its kind, this handy volume should prove invaluable to airmen. It describes the terminology, charts, instruments, cloud formations, etc., involved in the science of weather reporting and prediction. Definitions are clear and concise. An alphabetical arrangement is followed throughout, starting with "absolute humidity" and ending with "zone time."

In the back of the book is a section devoted to the equivalents of English terms in Danish, Dutch, French, German, Italian, Norwegian, Portuguese, Spanish and Swedish. Numerous pictures, charts and graphs are used throughout the book. E. B.

THE CIVIL AERONAUTICS ACT OF 1938 AND REORGANIZATION OF 1940. Address delivered by Col. Edgar S. Gorrell, president of the Air Transport Association of America, at the National Aviation Forum, Washington, D. C., May 28.

Col. Gorrell has had printed the very comprehensive study of the Civil Aeronautics Act which he gave in address form at the Aviation Forum. This is by all odds the finest interpretative document available on the Act and the reorganization which became effective July 1. Copies may be had from the Air Transport Association offices in Chicago. Anyone interested in the legal and legislative aspects of the reorganization should have this printed address. Col. Gorrell has proved himself to be considerable of a prophet in his delineation of conflicts expected under the new set-up. W. W. P.

AIRCRAFT DESIGN, Vol II by C. H. Latimer Needham, M.Sc. (Eng.) Lond., B.Sc., F.R.AeS., M.I.Ae.E.; Chemical Publishing Co Inc., 148 Lafayette St., New York, N. Y.; 308 pp.; \$6.50.

Unlike the first volume of "Aircraft Design" which outlines in simple language the principles of flight and stability, this book offers primarily a mathematical treatment of design. It is intended for use as a text by students of the subject and as a guide for the growing number of private constructors of aircraft.

Titled "Aerostructures," Volume II includes topics such as general layout of aircraft, conditions of loading, materials and strength of structures, the power unit, float seaplanes and flying boats, spinning and flutter, experimental testing of materials and structural parts. Illustrations and figures number 160, including 13 half-tone plates.

HOW TO FLY A PLANE, by H. P. Oldham; Waverly House, 156 Boylston St., Boston, Mass.; 221 pp.; \$2.50.

Mr. Oldham, who learned to fly in the Royal Air Force, and who later taught flying, has written an interesting volume in a manner which will appeal to both technical and non-technical aviation students. The author tries a new approach, having the student tell the story and describe his experiences and reactions from



the time of the first lesson to the end of the course.

The reader is taken through every phase of the CAA course for a private pilot certificate, plus some additional and advanced work. There are chapters on stalls, spins, aerobatics, instrument flying and night flying. Numerous sketches help the reader follow the instruction. E. B.

THE AVIATION BUSINESS, by Elsiebeth E. Freudenthal; Vanguard Press Inc., 424 Madison Ave., New York, N. Y.; 342 pp.; \$3.

There is no doubt that Miss Freudenthal did a thorough research job preparatory to writing this book, but it was done in libraries. It is quite evident that the author has never been a part of the aviation business nor has she obtained the understanding that goes with it. Her academic piece of research, a sort of elaborate master's thesis one does for college. It is orderly, it is as comprehensive as the newspaper files and other source material goes, it is a creditable writing job. But it is written from a detached—an external—viewpoint.

One wonders if the author drew up her conclusions before she started her research. It would seem so. From the first page one senses the inevitable conclusion that after chapter after chapter of muckraking will come the suggestion of government ownership. The presentation is one-sided all the way through. She digs up "all the dirt" but rarely broadens her viewpoint. She starts pounding for a definite goal and reaches it unswervingly.

Not all has been lilly white with

the aviation industry. No one denies that. But industries are built on such haphazard methods. Is government ownership the solution merely because there are skeletons in the closet? Should the entire industry be blamed for what has gone on in some cases? Would aviation be where it is today if it had been under government control?

The author cites Trans-Canada Air Lines as an enlightened example of a government-controlled and operated airline, but who built Trans-Canada? It was built by men from private industry, it was built on the experiences of private aviation and could not have been achieved otherwise. From all we have seen of government operations in this country, God give us the worst in private ownership and operation. Miss Freudenthal is living in a fool's paradise to think that the government is efficient or is a responsible custodian of the taxpayer's money. Sometimes it is, often it isn't.

Very naively, she screams in italics about the huge financial losses on the stock market in 1929, as if aviation stocks were the only ones to be washed out. What of railroads, steel, utilities, and industry at large?

So determined is she to load her dice that she falls into a common pit of error in regard to air mail "subsidy." Why is it that supposedly intelligent persons insist that carrying the mail involves a "subsidy." Does the government "subsidize" typewriter companies because it buys typewriters? Isn't air mail pay a payment for honest services rendered rather than a "subsidy"? This one inexcusable bit of nonsense alone destroys the value of the book.

As a biased, partisan argument for government ownership, the job isn't bad. As an intelligent appraisal of the aviation industry, it just isn't there. W. W. P.

Obituary

THOMAS B. EASTLAND of San Francisco, former director of Transcontinental Air Transport Inc. and of its successor, TWA, died on June 21 in Los Angeles of a heart attack. Instrumental in establishing coast-to-coast air service, Mr. Eastland also was a former director of Douglas Aircraft Co. and Curtiss-Wright Corp.

ROBERT McVEY, 40, co-manager of Monmouth, Ill., Airport, died on July 4 at Monmouth.

Bill Wilson Weds

Miss Edna Frances Molineux, daughter of Mr. and Mrs. Thomas Aljoe Molineux, and William L. Wilson, director of public relations of Republic Aviation Corp., were married on June 15 at Yeoman, Pa. Wilson, a member of the Aviation Writers Association, also is public relations counsel of Kellett Autogiro Corp.

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THE ULTIMATE IN AUTOMATIC DIRECTION FINDERS

ONE DAY, as Robert Louis Stevenson stepped down from a lecture platform, a fluttery young woman swooped down on him and said, "Mr. Stevenson, your books are so delightfully easy to read that I just *know* they were very easy to write!"

Amused by the dubious compliment, Stevenson replied, "Madame, the easier you find my books to read, the harder I found them to write."

Those words describe with perfect aptness the new Learadio Automatic Direction Finder ADF-8. This unique instrument, though rugged in the extreme in its construction and utterly dependable in its operation, is admittedly an exceedingly complex mechanism, requiring an untold number of engineering man-hours for its perfection. But for that very reason—because it is complex—because it is brilliantly engineered—the ADF-8 is *incredibly simple to use!*

The ADF-8 is an *automatic* direction finder. It points—and stays pointed—to exactly where you want to go. It gives instant, continuous, and visual orientation. It estab-

lishes your position quickly, easily, and clearly. It operates throughout the entire 360° azimuth. It provides automatic unidirectional indication, automatic bi-directional finding, manual visual-null direction finding, and communications reception. All the pilot has to do is switch to the desired function and tune to the proper frequency. The ADF-8 automatically takes care of everything else. Intelligence has been built into it to select the proper circuit conditions for the various bands and functions, to secure and integrate the information, and to represent it graphically for the pilot!

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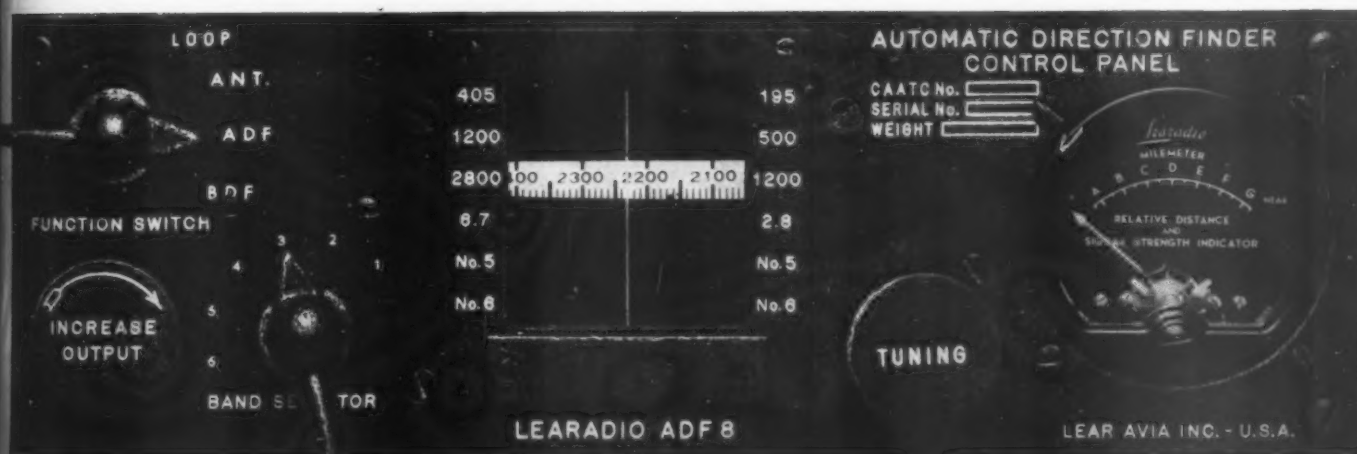
To any pilot, instrument or contact, the Learadio ADF-8 is clearly the best insurance of person and property that money can buy. It is the sober judgment of impartial and expert observers that the ADF-8 represents the soundest engineering, the simplest operation, the maximum accessibility for inspection and service, the greatest adaptability of installation, and the highest usefulness and performance in the whole broad field of automatic direction finders today. Every pilot or executive who is interested in checking these claims, is invited to write for a free booklet fully documenting these statements.



THE AZIMUTH INDICATOR of the ADF-8 gives accurate bearings throughout a 360° scale. It can be mounted anywhere on the panel in a flush, vertical position, and can be read like any other flight instrument. Even when static conditions are such that voice communications and range reception are impossible, the ADF-8 continues to function with reliable bearings.

THE REMOTE CONTROL TUNING UNIT of the ADF-8 is truly a masterpiece of compactness and simplicity. The tuning and function switches automatically select proper radio circuit conditions, insuring against possible operational mistakes. The ADF-8 (as well as the Learadio ADF-7) may be used in conjunction with the new Lear-matic gyromatic navigator, on which full details will be announced next month.

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AIR CARRIER RECORD

(C. A. A. Applications, Hearings, Dockets)

Bez Seeks Routes

Nick Bez on June 26 filed applications for feeder routes in the northwest. Complete story on page 27.

TWA-Marquette Deal Denied

The CAB on July 3 denied the application of TWA for permission to purchase Marquette Airlines. Complete story on page 23.

UAL Gets Red Bluff Stop; Others Denied

United Air Lines on June 28 was granted permission to include Red Bluff as a stop on AM11, but the CAB denied the company the right to stop at five other points. Complete story on page 23.

PCA Granted Pittsburgh-Buffalo Mail

Pennsylvania-Central Airlines' Pittsburgh-Buffalo line was designated as a mail route on June 28 by the CAB. A stop at Erie was granted, but Youngstown was refused. Complete story on this page.

American Asks to Merge AM4-23

American Airlines on July 2 filed application with the CAB to have its routes AM23, Albany-Ft. Worth, and AM4, Dallas-Los Angeles, consolidated under one certificate, to be known as AM4. AA states that such consolidation would "increase the efficiency of petitioner in scheduling of flights on its transcontinental route, and thereby provide more efficient air transportation of persons, property and mail, and decrease clerical work required by the Authority, the Post Office Dept., and the petitioner in connection with the operation of said route."

New York & Bermudian Hearing Postponed

Hearing scheduled for July 29 on the application of New York and Bermudian Air Line for a Newark-Bermuda service, has been postponed to Oct. 1 before CAB Examiner Frank McIntyre.

Inland Asks Alliance Stop

Inland Air Lines on July 2 filed application with the CAB for permission to include Alliance, Neb., as an intermediate stop on AM35, Huron-Cheyenne.

TWA Amends Application

TWA has amended its application for a Pittsburgh-Boston route to include Albany, N. Y., as an additional intermediate point.

Portland-Bellingham Service Sought

Application has been filed by Wallace Air Service of Spokane, Wash., for a mail-passenger-property route from Portland to Bellingham via Vancouver, Kelso, Chehalis, Olympia, Tacoma, Seattle, Everett and Bayview, a distance of 249 miles. The company, headed by H. R. Wallace, has for 12 years been engaged in various aeronautical activities, the application stated. Operations would be conducted with three Stinson Reliants, which would be purchased new for \$11,330 each. Original cash outlay is estimated at \$50,000. Company's total assets as of Dec. 31, last, were \$80,496. During the first five years, the following losses from operations are estimated (no provision for mail pay): \$28,083, \$17,695, \$4,959, \$4,850 and \$4,170, respectively.

PCA Gets Pittsburgh-Buffalo Mail;

Erie Stop Granted, Youngstown Denied

Permission to carry mail on its Pittsburgh-Buffalo route, with the right to include a stop at Erie, Pa., was granted Pennsylvania-Central Airlines on June 28 by the Civil Aeronautics Board.

The Board, however, refused to allow the company to stop at Youngstown. It admitted that air service should be inaugurated to that city, but that it could be better served by a route stopping at points other than those on PCA. CAB Examiners Francis Brown and Thomas Wrenn had recommended inclusion of both Erie and Youngstown in PCA's certificate.

The Pittsburgh-Buffalo route, which formerly carried passengers and property only, will be known as AM46. Rates for the carriage of mail have not yet been set by the CAB.

"While the evidence of record indicates that a considerable volume of traffic could be developed from service at Youngstown, this alone is not necessarily conclusive," the decision said. "In exercising our functions relative to the inauguration of new air transportation services, we are directed by section 2(a) of the Act to consider 'the encouragement and development of an air transportation system properly adapted to the present and future needs of the foreign and domestic commerce of the U. S., of the postal service and of the national defense.' This statutory mandate requires that if a new service is to be authorized it must, in addition to presenting a reasonable prospect for the development of a satisfactory volume of traffic, fit logically into the existing air transportation system."

The CAB also said that "it is not to be anticipated that any great amount of local Pittsburgh-Youngstown traffic will be derived from the proposed service. . . . It is evident . . . that the

major flows of traffic in and out of Youngstown, excluding Pittsburgh, are to and from points in the east, west and northwest.

"If Youngstown were made a point on applicant's Pittsburgh-Buffalo route, service to such of these points as Cleveland, Detroit and Chicago would not be provided except by connections with other routes at Erie or Pittsburgh, which would require that traffic be carried over a portion of its journey in a direction contrary to that of its ultimate destination.

Under these circumstances, if Youngstown is to be included on an existing air service in a manner which will be most consistent with the directions of traffic flows, it would appear that its inclusion on some other route or routes would be more logical than its inclusion . . . on the Pittsburgh-Buffalo route." A Youngstown stop also would slow down Pittsburgh-Buffalo service, the CAB said.

"Therefore," it concluded, "although there appears to be justification for the inauguration of an air service to Youngstown, the designation of that city as an intermediate point on applicant's Pittsburgh-Buffalo route does not seem consistent with the mandate in section 2(a) of the Act, in that the present and future needs of the domestic commerce of the U. S. would be better served by the inclusion of Youngstown as a stop on some other route providing more direct service to those cities in the east, north and west to which traffic flows are greatest."

1st Catalog of Aero Uniforms

Russell Uniform Co., 1600 Broadway, New York, N. Y., is distributing the first catalog of uniforms devoted solely to aviation, according to Howard A. Zeimer, manager of the company's aviation department. The folder is known as illustrated catalog No. 48 and is available at no charge.

'Giro Experiment Ends After Successful Year

Having completed one year of experimental service, Eastern Air Lines on July 5 celebrated the first birthday anniversary and suspended flights of the scheduled autogiro airmail service originating at the rooftop airport of Philadelphia General Post Office.

On July 6, 1939, the world's first scheduled autogiro service was inaugurated at Philadelphia by Eastern. From that day to June 20, 1940, the unique mail service was operated to Camden, N. J., six miles distant. On the opening of Philadelphia's new Municipal Airport on June 20, the service was moved, with the rest of EAL's operations, from Central Airport, Camden, to the new Municipal Airport.

In the year of the 'giro's operation, the service achieved the following record: Total trips scheduled, 3,070; total trips operated, 2,634; percentage of scheduled trips operated, 85.8%; total mail carried in scheduled operation, 83,766 lbs.; trips canceled because of: weather conditions, 11.95%; mechanical, .39%, and miscellaneous, 1.86%.

The Post Office Dept., sponsor of the experimental service, on May 13 pointed out to Congress that the experiment had proved to be "very reliable and satisfactory" and urged continuation on a permanent basis.

EAL used a rotary wing craft manufactured specifically for mail, express and commercial use by Kellett Autogiro Corp., Philadelphia.

Boeing Delivers Last 307's

The last of the eight initial model 307 Stratoliners left the factory of Boeing Airplane Co., Seattle, for delivery to Pan American Airways on June 29. Since Mar. 20, five of the ships have been delivered to TWA, three to PAA.



Because American industry is fast moving Southwest to a plentiful supply of intelligent labor close to raw materials, many new chemical and manufacturing plants are springing up along Texas' Golden Gulf Coast. Newest of all is a \$25,000,000 naval air training station at Corpus Christi. It all adds up to a 5-billion-dollar empire market! Want some of it? From Chicago or Kansas City to all Texas, It's Braniff Southwest!

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THOUSANDS now living will complete their life's span without ever having traveled by air—some, because they just never had any place to go; others simply because a ticket cost more money than they had to spend. But fewer and fewer grow the number who will forego air travel only because it is strange or new or different. To date, perhaps, air transportation has been *ahead* of public demand. The stature to which the industry may eventually rise depends in large part upon how well it manages to *stay* ahead—not so much in seating capacity as in ideals of public service which anticipate the insatiable desires of a forward-looking, energetic people who will never cease going places!

AMERICAN AIRLINES Inc.
ROUTE OF THE FLAGSHIPS

CAB Denies TWA Application to Buy Marquette; Calls Price Excessive

\$350,000 Would be More Than 15 Times the Value of Tangible Property to be Transferred, Decision Says

Stating that a certificate of convenience and necessity should not be treated as "if it were a speculative security, to be sold by the holder to the highest bidder," the Civil Aeronautics Board on July 3 denied the application of TWA for permission to purchase Marquette Airlines, on the grounds that the purchase price was excessive and not in the public interest.

The CAB found that operation of Marquette's passenger-property St. Louis-Detroit route by TWA would promote an improved service and result in the development of traffic potentialities along the line, "and that the acquisition from that standpoint would not be inconsistent with the public interest." Neither would the purchase constitute a monopoly, it added.

Concerning the purchase price, however, that CAB said that it would "be more than 15 times the value of the tangible property to be transferred."

An examiners' report was not issued in the case, the CAB explaining that all parties on June 14 waived such a report. The question of Marquette's citizenship, which also was a part of the hearing, was not covered by the decision, but will be decided at a later date. The CAB has been attempting to take depositions in Canada concerning ownership of Marquette stock during the "grandfather" period. "The depositions were resisted and proceedings were instituted and are pending in Canadian courts for their enforcement," it was explained.

TWA paid John McKelvy, Pittsburgh financier and backer of Marquette, \$30,000 cash on execution of the purchase agreement, agreed to pay \$275,000 cash and to issue two one-year 4% promissory notes of \$50,000 and \$25,000 upon consummation of the contract. TWA was also to pay McKelvy \$10,000 per month starting Jan. 6, 1940, until the sale was completed or canceled. Sigmund Janas, president of Canadian Colonial Airways, was to receive \$35,000 commission for aiding in bringing the parties together.

The CAB compared this price with Marquette's assets of \$52,040.99 as of Jan. 31, 1940, and noted that Jack Frye, TWA president, had testified that his company would not realize more than \$30,000 from these assets.

"A certificate of convenience and necessity given to an air carrier conveys the privilege of operating as a common carrier between certain points," the decision said. "The privilege is one granted by government, in the interest of an orderly and sound economic development of air transportation. Persons enjoying such a privilege may use it to build up a valuable property, possessed not only of physical assets but also of substantial going-concern value representing the experience, the good will and the collective competence developed by the operating organization. Individuals cannot create the privilege that the certificate conveys; they do not exercise that privilege without restriction; and they cannot transfer it except under terms imposed by law.

"It would be clearly adverse to the public interest . . . to allow a certificate . . . to be treated as if it were speculative security, to be sold by the holder to the highest bidder, or as if it were possessed of a value of its own, distinct from the legitimate expenses of initially securing a certificate, and from the values developed by the conduct of operations under the certificate. The transfer of certificates at inflated or speculative prices would not foster sound economic conditions in air transportation . . . It

would not promote economical and efficient service at reasonable charges. It would not avert unfair or destructive competitive practices, but would serve rather to encourage the appearance of such practices. We conclude that payments for the sole purpose of effecting a transfer of a privilege conveyed by public authority, with the expectation that they will at some time be recovered by the purchaser from the users of the service or from the air mail compensation paid by the government are not in the public interest."

Discussing Sigmund Janas' part in the deal, the CAB said that the record disclosed no activity by him "in direct connection with this contract other than giving assistance in bringing the contracting parties together again when negotiations . . . had been disrupted. The record is vague as to the extent of this assistance, but it apparently was quite limited."

Other Sales Quoted

In justification of the price, TWA had quoted other purchases (sale of Wedell-Williams to Eastern Air Lines in 1936 for \$150,000, and Wyoming Air Service to United Air Lines in 1937 for \$209,000). The CAB said that such purchases had not come under its jurisdiction and therefore "have little probative value in the present proceeding." It took the same view toward the attempt of Delta to buy Marquette for \$500,000.

TWA had also stated that McKelvy's investment in Marquette would be about \$290,000, and that the \$350,000 would not give him an excessive profit. The CAB said, however, that "most of McKelvy's investment had gone into meeting Marquette's operating deficits, which totaled \$236,281.64 as of Jan. 31, 1940. The record contains no showing that any appreciable part of Marquette's operating losses have been properly describable as development costs, or as costs attaching to pioneering a new territory.

"The record gives no indication that the continued losses have been contributing to the future improvement of the quality of operation over the route, except insofar as they have served to make it possible to hold the personnel together. Marquette has flown into airports that were established independently of its requirements; it has not been under the necessity of expending any substantial sum on the installation of its own facilities; there is no showing that it has made any contribution to the development of new operating methods or practices; its aircraft had been retired from service by their former owner as already obsolete.

"The history of the operations in which these deficits were incurred has little, if anything to contribute, and would be of little if any advantage, to a carrier now inaugurating service over the same route. It is not as development cost or as the price of pioneering, but as an expenditure made to keep alive the privileges acquired through the inauguration of operations a few days before the beginning of the 'grandfather' period in 1938, that the deficits have to be viewed."

PCA & ALPA Sign

Employment contract negotiations between Pennsylvania-Central Airlines and the Air Line Pilots Association, International, have been concluded with the signing of an agreement by the two parties aided in their discussions by the National Mediation Board. In addition to PCA, American Airlines, TWA and Braniff Airways thus far have signed contracts with the ALPA.

Air Mail Chief



Roy M. Martin

New superintendent of the division of air mail service in the bureau of the Second Assistant Postmaster General. He succeeds Charles P. Graddick, former air mail superintendent, who resigned recently to join United Air Lines.

UAL Granted Stop at Red Bluff; CAB Denies 5 Others

United Air Lines on June 28 was granted permission by the Civil Aeronautics Board to include Red Bluff, Cal., as an intermediate point on AM11, Seattle-San Diego, but was denied the right to stop at Stockton, Marysville, Chico, Modesto and Merced.

The CAB upheld its examiner's recommendations in the decision. United applied for the stops in order to furnish service to the Central Valley.

"Despite the evidence tending to establish a certain economic importance of the proposed points and a community of interest and traffic flow between them, we cannot conclude that the inauguration of new air service promises any considerable benefit to or use by those communities, with the exception of Red Bluff," the CAB said.

"Red Bluff, although small, is the center of a heavily populated area and has the most suitable airport in the vicinity of the Shasta Dam. The cities of Merced, Modesto, and Stockton now have a greater frequency of bus and rail schedules than do Marysville, Chico and Red Bluff.

"By stops at Red Bluff, air service can be furnished to a large area in the northern part of the Central Valley. Chico will then be only 40 miles from available air transportation, as contrasted with a distance of 100 miles at the present time. Since Red Bluff is now an alternate airport for United and has radio facilities and sufficient personnel, the only additional cost of providing service will be an estimated expenditure of \$350 plus the costs incurred by landing and taking off at that point on existing United schedules."

UAL had estimated that the sale of service at the proposed stops would amount to about \$110,000 per year, but the CAB claimed that it would be "considerably less" than that amount.

Bell with American

Robert Bell, former operator of the North Beach Air Service in the New York metropolitan area, has liquidated his company and has joined the sales department of American Airlines.

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Fastest—only 3 hours 33 minutes, from Chicago to New York. **Smoothest**—flying the calm upper air levels. **Far more luxurious**—with spacious accommodations for 33 passengers and crews of 5 in cool, quiet supercharged cabins.

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Commuting or crossing the continent, TWA's great new 4-Engine Stratoliners put new speed, new reliability, new luxury at the command of air travelers, opening a new era in the land of wings.

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THE ROUTE OF THE STRATOLINERS



St. Louis-Nashville-Muscle Shoals Routes Granted Eastern Air Lines

The Civil Aeronautics Board on June 28 awarded Eastern Air Lines a 302-mile route between St. Louis and Nashville via Evansville, and a 108-mile link between Nashville and Muscle Shoals.

St. Louis-Nashville is to be known as AM47, while the Nashville-Muscle Shoals is an extension of Eastern's AM40, Tampa-Tallahassee-Atlanta, Tallahassee-Memphis.

Concerning AM47, the CAB stated: "The proposed route, in addition to giving Evansville air service and providing direct air service between St. Louis and Nashville, will join Eastern's route 10 at the latter city to connect by air service St. Louis and cities to the west and northwest with southeastern cities, including Chattanooga, Atlanta and Florida points.

"In view of the fact that present routings are so devious it would seem reasonable to predict that the proposed service will not adversely affect existing air carriers. On the other hand, traffic developed in St. Louis and Evansville would tend to increase revenues on Eastern's existing route 10 between Nashville and Jacksonville and to a lesser degree route 6 south of Jacksonville to Miami."

EAL's estimates of passenger traffic are not "unduly optimistic," the decision said. Air navigation facilities on the route will cost the government \$166,100 plus annual maintenance of \$35,400, it stated, adding that "when and if installed, these facilities would of course not only be available for the proposed operation, but also for military and private flyers as part of the national airway system."

The Nashville-Muscle Shoals line "would link Eastern's present route 10 between Chicago and Jacksonville with the leg of its present route 40 between Memphis and Tallahassee."

The community of interest between the points on this proposed route does not appear to be so pronounced as in the case of points on the route between St. Louis and Nashville," the CAB noted.

"However, regarding the route as a link between Eastern's existing routes serving the area, there appears to be sufficient community of interest between points on both routes to justify the inauguration of the proposed service. The proposed operation would reduce the fastest existing travel time for the journey by air between Birmingham and Nashville by 50%. It would make a corresponding reduction between Muscle Shoals and Nashville of 66 2/3%. Reductions in air fare would amount to approximately 35% and 70% respectively.

"The adverse affect on existing carriers appears to be very slight. It is rare that a new service can be in-



— Eastern's present routes.
- - - Eastern's new routes.
- - - Connecting airlines.

augurated without some possibility of adverse affect on an existing carrier."

Cost of the airway facilities to the government "does not appear disproportionately large in the case of this route," the CAB stated. This cost will be \$30,200 plus \$3,520 annual maintenance.

NEW RADIO RANGE

RCA Develops Ultra-High Frequency Omnidirectional Beacon

An ultra-high frequency omnidirectional radio range beacon which is said to make possible air navigation by radio without restriction to predetermined fixed courses between cities, has been developed by the RCA research laboratories.

The new device, it is said, tells a pilot his exact direction at all times with relation to the radio beacon transmitter at his destination. If the plane is forced from its predetermined course, the drift is shown on a dial on the instrument panel. The dial indicates a new route to the original destination as soon as the old course is left behind.

COOPER, CAL V.-P., RESIGNS

Continental Official Leaves Company Because of Press of Other Business

Robert F. Six, president of Continental Air Lines, has announced the resignation of Sheldon G. Cooper as vice-president of the line.

"Mr. Cooper's resignation was occasioned by the press of other business and he leaves with the best wishes of Continental," Six said.

II. TWA—Present and Proposed



This is the second of a series of maps showing new routes sought by the major airlines in applications to the Civil Aeronautics Authority. Transcontinental & Western Air's proposed operations, in addition to its present system, are shown above.

New 8,000-Mile PAA Route

As this issue went to press, Pan American Airways was preparing to inaugurate air mail service on July 12 over its new 8,000-mile route between San Francisco and Auckland, New Zealand. The trip will be made in four and one-half days and service will be on a fortnightly basis. Clippers will leave San Francisco on Saturday afternoons, arriving in Auckland on Wednesdays; leave Auckland on Sundays, reaching San Francisco on Wednesdays. On initial schedules, only air mail will be carried. Passenger service is scheduled to open about 30 days after the first mail flight.

15 24-Passenger DC-3's Will Expand TWA Fleet to 55

An order for 15 24-passenger transports, costing more than \$1,500,000, has been placed with Douglas Aircraft Co. by Transcontinental and Western Air, according to Jack Frye, president of the line. Frye said nine of the new planes will be delivered by Dec. 31, the remaining six to follow by next spring.

The planes are a modernized version of the Douglas DC-3, 21-passenger ship, with a longer passenger cabin and a seating capacity of 24.

Frye said TWA's expansion during the last year and plans for extension of present routes were the chief reasons for the order. Since Jan. 1, he said, the line's business has been more than 60% better than the corresponding period of 1939.

With the new Douglasses, TWA will have a total fleet of 55 transports.

C&S DC-3 Service Requires Job Shifts

With inauguration of new Douglas DC-3 service on its routes, Chicago & Southern Air Lines announces a series of changes in duties of its personnel.

Appointment of James L. McEvoy as Chicago district sales manager was announced recently by D. D. Walker, vice-president. McEvoy succeeded J. R. Butler who has been named station manager for C&S at Chicago Municipal Airport. Butler formerly was station manager for Eastern Air Lines at Memphis.

In the line's operations department, Bruce E. Braun, vice-president announced that R. L. Anderson, in charge of all airline maintenance, will have the following assistants:

R. S. Stadden will be line maintenance superintendent. Stadden has been assistant to Anderson for the last few years.

Elmer Rudder, a senior mechanic, has been named overhaul base superintendent.

Charles Feuchter has been named crew chief at hangar No. 2, St. Louis, and will be under the supervision of Elmer Rudder.

It also was announced by Braun that W. G. Gabehart, former station manager at Memphis for C&S, has been selected as superintendent of station managers.

R. Proctor has been named crew chief in charge of line service for the company's operation at Chicago Municipal Airport.

Howard Abel, flight superintendent has been appointed station manager at St. Louis.

\$196,714 Building for C & S

Chicago & Southern Air Lines will rent at \$7,000 a \$196,714 hangar-office building at Memphis Municipal Airport, buildings to be constructed by the city and WPA. City's share will be \$121,351 which C & S will amortize over 25 years at 3%. Between 150 and 200 C & S employees are to be transferred from St. Louis with removal expected about November.

Pan Am Increases Frequency to S.A.

Pan American Airways, introducing new Boeing Stratoliner and Douglas transports, has increased passenger capacity more than 50% over all main trunk routes of its system to South America.

On July 1 the number of weekly schedules between the U. S. and Argentina was increased from four to six, and on July 4 the line inaugurated with the Boeing Clipper Flying Cloud the first non-stop service between North and South America.

The 1,200-mile trans-Caribbean crossing is accomplished in six hours' flying time, bringing the north coast of South America within one-half day's travel of the U. S. eastern seaboard.

At Barranquilla, at the end of its trans-Caribbean run, the Flying Cloud makes connections for Cristobal, C.Z. There, Pan American Grace Airways has instituted a connecting schedule, supplementing the two now in operation. The new Panagra service branches eastward to coastal Peru, to La Paz, Bolivia, then inland to Buenos Aires, Argentina, on the east.

Another stage of the higher speed, higher frequency service between the Americas is a duplication of the non-stop substratosphere service from Miami to Colombia with a similar service around the outer eastern rim of the Caribbean directly through the West Indies. Route familiarization flights by the Clipper Rainbow, sister ship of the Flying Cloud, were planned for July.

Supplementing these new services is a fifth schedule operating through Central America to the Canal Zone and across the north coast of South America to Trinidad on the Atlantic.

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(Administration Building)

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Houston-Memphis Recommended for C&S Over Braniff and EAL

Recommendation that Chicago & Southern Air Lines be granted a mail-passenger-property route between Houston and Memphis via Shreveport and Pine Bluff, but that the company's application, together with those of Braniff Airways and Eastern Air Lines, for Memphis-Louisville be denied, was contained in a proposed report issued July 8 by CAB Examiners Francis W. Brown and Lawrence Kosters.

All three carriers had sought the 850-mile Houston-Memphis-Louisville route, but the examiners stated that only the 513-mile Houston-Memphis segment was required, and found that C&S could best operate it.

Concerning Houston-Memphis, the examiners stated that the existing air service "is circuitous and slow, requiring changes of plane and frequent long layovers at connecting points, with the result that there has been little development of the potential air travel between those points. Substantial savings in mileage, time and charges would be made possible by the establishment of this route, and the conclusion appears warranted that a good volume of passenger traffic would be developed."

"In addition, the proposed line would establish a new through route from the southwest to the metropolitan areas in the north and northeast, with a saving in mileage of more than 100 miles. The establishment of the proposed route, providing as it will a more direct service between points now having airline service and a shorter route for long-haul traffic, will compete with existing airlines."

"While this competition may result in some diversion of traffic to the new route, there has been no showing that such diversion will be of such magnitude as to endanger or impair the operations of existing carriers. . . . If air carriers are to be prevented from inaugurating improvements in existing service solely as a protection to a particular carrier or carriers, the development of an adequate air transportation system in this country will be retarded."

"While the proposed line will constitute a competitive service to the existing route of Braniff to Chicago and of Eastern to the northeast, it will also act as a feeder to the north-south line of Chicago & Southern, opening to that carrier a new source of traffic for its route. In addition, the establishment of the new route, with the inclusion of a stop at Pine Bluff, will bring air transportation service to a community of more than 20,000 persons, which is now situated more than 40 miles from the nearest airline stop."

On Memphis-Louisville, however, the report said that the record failed to indicate any close community of interest between the points north of Memphis and the southwest area which would be served by the proposed line. American Airlines provides service between Memphis and Louisville via Nashville on a route only 14 miles longer than that proposed by C&S, Braniff or Eastern, it pointed out.

Also on Memphis-Louisville, the examiners recalled that considerable stress had been laid on the fact that this segment of the route would furnish service to Evansville. They then pointed out that Evansville is to receive service on Eastern's St. Louis-Evansville-Nashville line, established by the CAB on June 28.

Each of the carriers would be fit, willing and able to perform the service on the route. Brown and Kosters said. "The question of the effect of the proposed operation upon the air transportation system of the nation has been considered hereinbefore in connection with the discussion of the public convenience and necessity of the route," they said. "It was there concluded that the diversion of traffic which would result would not be of

such an extent as to threaten the stability of existing carriers . . .

"If the proposed route is to provide that constructive competition which will be in the interest of a sound development of the air transportation industry, it should not be operated by one of the carriers with which it will compete. Eastern admittedly is not interested in developing any through traffic over the new route which would be established to the northeast and it is not reasonable to suppose that Braniff would seek to divert through traffic from Texas points to Chicago over the new route from its present system, and thereby lose a portion of the long-haul it now has."

"In view of the foregoing considerations it is concluded that the public interest would be best served by the operation of the proposed route by Chicago & Southern."

Airline Personnel

Now with Canadian Airways at Vancouver, B. C., is Walter F. Barclay, airline mechanic and operations course graduate from Boeing School of Aeronautics.

Walter C. Menke is TWA's new district auditor at New York. John C. Stratton is the company's new statistician at the same place.

G. J. Wilcox has been employed by Trans-Canada as a mechanic.

New radio operator for American is Jeff Scalbom, Boeing School graduate.

New Canadian Colonial pilots are Roy Ralston and Charles L. Fischer from the U. S. Army Air Corps and Murray Hawley from United where he was a first officer. All pilots have been checked out over the system by Chief Pilot H. Mitchell and have been assigned to flight duty.

TWA has employed the following new junior clerks: J. H. McAndrews, Robert O. Grund and Arthur P. McKeon at New York; A. J. McDaniel at Chicago, and D. H. Dunn at Kansas City, Mo.

The following American first officers have received transfers: William E. Cooper Jr., from New York to Ft. Worth; Wendell T. Fleming and Bertrand B. Bruce from Cincinnati to N.Y.

Roy Ross, formerly d.t.m. for Northwest at Spokane, has joined United to cover lower New England and New York State.



Glass

Capt. Joe Glass, who flies American Flagships between NY and Los Angeles, has become the line's first captain to fly 2,000,000 miles or more. His flying time totals more than 17,000 hours. He joined American on Dec. 5, 1928.

Capt. Archie W. Leighton of Penn. - Central has been flying the Milwaukee-Detroit route for 10 years. Recently as he was flying the regular run, his 17-year-old son qualified for his private pilot's license at Milwaukee.

New Mid-Continent first officers are Robert H. Bonnett and Gordon Rex, Parks Air College products.

Ray Woodruff of American has been transferred from Little Rock to Municipal Airport, Oklahoma City. Boeing School of Aeronautics has placed with Trans-Canada Fred Pope as passenger agent, Vancouver, B. C.; Frank J. Murray, mechanic at Winnipeg, Man., and Arthur Warren as instrument mechanic at Winnipeg.

James McGuire, formerly with Boston-Maine, is now with Canadian Colonial at Burlington, Vt. The following transfers have been announced by Pan Am: Willard G. Eldridge from section operations supt., Manila, to section operations supt., Honolulu. A. L. Lewis, from airport manager, Auckland, N. Z., to section operations supt., acting Manila. P. L. W. J. Mullaher from airport manager, Canton Island, to airport manager

Ewing on the Wing



Bob Ewing, employed in the San Francisco offices of United Air Lines, and the Lycoming-powered Taylorcraft in which he flew from Miami, Fla., to Oakland, Cal., for \$27.50 in gasoline and oil.

and section flight release officer, Auckland. Harold Graves from assistant airport manager, Honolulu, to airport manager, acting, Canton Island.

Dick Boynton, R. Gustavel and V. Petrie have assumed full-time passenger service duties with UAL at Seattle, having been replaced in reservations by three new men, Les Greening, Ray Swett and John McKeen.

Ernest Frei is working as a mechanic for Pan Am at Treasure Island, San Francisco.

Norman Mosely, who formerly leased James Island Airport at Charleston, S. C., has left Eastern to become a first officer with United.

Robert L. Grandy, former mechanic student of Spartan School of Aeronautics, has been employed by Mid-Continent in Kansas City, Mo.

Marvin Merrill is the new station manager at Huron, S. D., for Inland. Additions to UAL's traffic department in New York are Steve Sutton, Parker Abbott and Dan Meenan. Nat Groton, former head man at the counter, has been transferred to Chicago and is succeeded by Bob Berrin. Johnny Becker was transferred to Denver.

The following TWA sales representatives, formerly at New York, have been transferred as follows: C. E. Clarke to Pittsburgh, W. J. Coffey to Kansas City, Mo., C. R. Crone to Hollywood, Cal., and J. D. Harrigan to St. Louis. New UAL employees at Cleveland are Jack Honeywell, Bill Shelby, Barney Taylor, George Graag and Fred Brown.

W. F. Judd of TWA has been transferred from passenger agent at Burbank to student first officer at Kansas City, Mo.

Newcomer to United's staff at Des Moines, Ia., is S. W. Chambers.

George B. Scott, former Inland station manager at Casper, Wyo., has been named station supervisor for the South Dakota division with headquarters at Huron, S. D.

The following TWA meteorologists have been transferred and promoted to the positions noted: J. H. Bell, from New York to flight superintendent, Kansas City, Mo.; G. A. Hollingsworth, to meteorologist in charge, KC; L. J. Metcalf, to meteorologist in charge, N.Y. Austin Dougherty and Kenneth DeWeese are employed by United at Cheyenne in the overhaul and repair base; R. J. Fisher is working as a mechanic for Yukon Southern Air Transport in Canada. The three are Boeing School graduates.

Lester Carlson has been transferred from Cheyenne to Rapid City, S. D., and has been promoted to station manager, according to J. B. Walker, general traffic manager for Inland.

F. M. Huffer, Jr. has been employed by TWA in Kansas City, Mo., as Link trainer instructor. Henri Low is a new TWA ticket sales representative in KC. Bert Badgerow recently was appointed chief radio operator by United at Boise, Ida.

Additional new TWA junior clerks are: C. E. Williams, C. A. Kneale, L. A. Duermeyer, Archie R. Ebbert, Ray L. Nelson, Harold E. Davidson, Norman E. Fisher, Allen A. Goodridge and J. W. Lord, Jr., all in Kansas City, Mo.; A. Harley at Pittsburgh; Ralph W. Page at St. Louis, and F. H. Fay at Burbank, Cal. Additional new TWA employees at KC are Edgar LeRoy Rose, draftsman, and L. L. Burt, passenger agent.

List of United employees at Burbank and Los Angeles who have been with the company for 10 years or more includes: Jack Bobo, George Boyd, Bill Campbell, Dick Bowman, Edward Eshleman, Bill Fulton, Howard Grant, Ham Lee, Homer Merchant, Chris Pickup, Homer Razor, E. L. Remelin, Mack Tait and Charlie Wrightson.

TWA has promoted D. L. Mesker from temporary assistant chief pilot to permanent assistant chief pilot with headquarters in Kansas City, Mo.

New United reservations men at Los Angeles are Fred Featherstone, Phil Metsker and Joe Colpaert.



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CONTINENTAL
AIR LINES

America's Fastest

Problems of Loading Passengers, Baggage Mounting, Reed Landis Says

With airline passenger traffic far exceeding the estimates of the statisticians, the problem of handling traffic and passengers at airports is one of the most serious facing the industry as plans are made for the next decade. Reed G. Landis, regional vice-president of American Airlines at Chicago, was asked by AMERICAN AVIATION for his views on this subject since one of his problems of study is airports.

"With city after city facing the problem of remodeling existing facilities or constructing new ones on their airports for the handling of the rapidly growing air travel load, it is interesting to check through some of the controlling factors in an effort to 'guess,' if you please, the potential traffic which might have to be handled," Landis said.

"This is not at all an idle attempt—it is certainly sound to attempt to provide facilities large enough to do their job, at least on the day of dedication!"

"I started out in my dreaming with the premise that airlines should be able eventually to carry about the same number of passengers per year as now use sleeping cars. That is very roughly 16 times our 1939 airline total. By the time such a volume is reached we might have aircraft carrying four times as many people as our present equipment. This then would require four times as many schedules.

"Because of travel habits and convenience, my guess is that most schedules will run at about the same time present ones operate, so we end up with the problem of handling four times as many airplanes and 16 times as many passengers and bags. The large ships envisioned would probably require about 200 feet fore and aft in which to park and 'de-park.'"

"At Chicago now in peak hours we could well use over a dozen loading gates. With four times the schedules we would need 50. Fifty gates times 200 feet per ship is almost two miles of loading ramp."

"However, there appears to be a bug in that thinking. Studies recently made by Ralph Damon (vice-president in charge of operations for American) indicate that no one airport can accept and discharge from its surface and handle in its contiguous air space any such volume

of ships—even allowing for perfection of known gadgets and improvement of pilot and control technique.

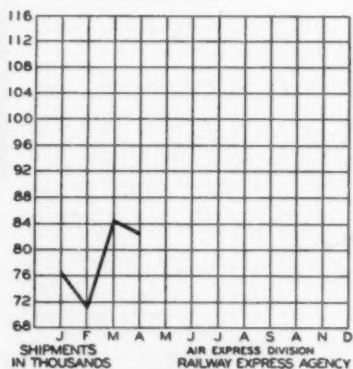
"It would appear that in contact conditions one superlative airport might hope to handle 30 ships on and 30 ships off in an hour. In weather requiring instrument approach, this might be cut only to 40%, or 12 on and 12 off in an hour.

"Carrying that thought on, and allowing 20 minutes at the ramp per ship, we need a net of 20 gates per airport. There should probably be 25 to allow for delays, etc."

"Even this reduced amount would require a mile of ramp, and it is obvious that some other solution must be found than walking passengers that far."

"There are other angles, too. A DC-4 will carry about a ton of passenger baggage. Are porters to carry these out under their arms or will a radical new plan of handling be required?"

"These few rambling thoughts only serve to illustrate how many and how serious are the new questions facing aviation as a result of its growth. There is certainly room and need for planning and invention, in place of opportunism and mere enlargement of ideas already obsolete."



AIR EXPRESS

Jan. shipments—76,682, up 33.5% over Jan. '39; gross revenue gain, 37%.
Feb. shipments—71,373, up 25.5% over Feb. '39; gross revenue gain, 27%.
Mar. shipments—84,336, up 18.7% over Mar. '39; gross revenue gain, 19.6%.
Apr. shipments—82,544, up 25% over Apr. '39; gross revenue gain, 24.5%.

United's Mail Pay Cut \$150,000 a Year; Line Asks Reconsideration

With the statement that the recent Civil Aeronautics Board rate decision would reduce his company's yearly air mail pay by about \$150,000, W. A. Patterson, president of United Air Lines, announced on July 7 that a reconsideration of the rate would be asked.

Patterson stated that under the CAB decision, UAL will receive about \$288,000 retroactive pay for the period from Oct. 27, 1939, to July 1, 1940, but that after the latter date payments would be \$150,000 less per year.

CAB estimates, one official indicated, are in "substantial agreement" with United's. The CAB figures that payments will be about \$133,000 less and

that the retroactive sum will be the same as the UAL estimate.

UAL states that its pound-mile rate for carrying air mail was before the CAB decision, less than that received by the airlines as a whole, and that the decision further widens the gap. For a typical month, the company points out, it receives .65 mills per pound-mile against one mill for the industry.

Many observers at first glance had estimated that the decision would increase United's pay slightly. However, the revised rate on AMI, the company's transcontinental, resulted in a reduction which overshadowed the increases on the other three routes.

May Air Traffic BOOMS

Business reverberations of the total war in Europe notwithstanding, a number of U. S. airlines have reported unprecedented traffic peaks for May.

Braniff Airways' revenue passenger miles increased 104% over May 1939, and number of passengers 107%.

Canadian Colonial Airways' revenue passenger traffic, reflecting a rising volume of business and tourist travel between the U. S. and Canada, climbed 171% higher in May over year ago.

Inland Air Lines' passenger miles gained 61% over a year ago, with passenger travel for the first five months of 1940 being 53% better than same period last year.

Pennsylvania-Central Airlines, in May, carried 69% more revenue passengers than year ago, flew 73% more revenue passenger miles, with five-months' business 65% ahead of 1939.

TWA operated 51% more revenue passenger miles than in May 1939, five-months' traffic being up 60%.

United Air Lines showed a May gain in revenue passenger miles of 65% compared with same month of last year and five-months' traffic gain of 61% over 1939.

Western Air Express' revenue passenger miles advanced 60% over the May 1939 figure.

Model Project

Employees of the Lionel Corp., manufacturers of model electric trains, on July 2 entered a pilot training program at the company's plant in Newark, N. J., under company sponsorship. Program will consist of lectures for six months, after which employees are expected to be ready for actual flight training. Company also is forming a gliding club through which employees will be taught soaring in a company-owned ship.

CCA TO ASK ROUTES

Company Will File Applications for NY-Nassau, NY-Boston

Applications for routes between New York and Nassau, Bahamas, and between New York and Boston will be filed with the CAB by Canadian Colonial Airways, according to a recent company announcement.

On the New York-Nassau route, stops would be made at Atlantic City; Norfolk; Elizabeth City; Wilmington, N. C.; Myrtle Beach, S. C.; Georgetown, S. C., and Charleston, S. C., the announcement said. No intermediate stops were listed for New York-Boston.

Douglas DC-3 equipment would be used, according to Sigmund Jansa, CCA president. Between New York and Boston, operations would parallel American Airlines' route. Both TWA and United Air Lines also are seeking routes into Boston.

MCA Uses 3,000-Watt Unit

Mid-Continent Airlines has replaced its 1,000-watt transmitter at Kansas City with a 3,000-watt broadcaster which permits operations by flight dispatchers over three frequencies at the same time with two radiophone circuits and one "code wireless" circuit. The new \$9,000 transmitter, part of a \$35,000 program for installation of new aeronautical radio aids along the airline's present 1,219-mile route and planned extensions.

UAL's New Radio Assembly

A new radio assembly developed by United Air Lines and now being installed in the airline's planes brings all radio control to one panel located on the control column. The switchboard provides dual output so that any or all of the switches may be operated by one pilot in any combination without change of volume or facilities in the headphones of the copilot. Centralization of all radio equipment in one assembly, together with the new control panel, is reported to save about 75 pounds in wiring alone.

OPERATIONS SUMMARY OF PAN AMERICAN AIRWAYS CARRIERS FOR APRIL

(Compiled from Company Reports to the CAA)

	Rev. Pass. Carried	Rev. Pass. Miles	Seat Miles Operated	Pass. Load Factor	Ton-Miles U.S. Mail	Pass. Revenue	U.S. Mail Revenue	Foreign Revenue	Operating Revenue	Operating Expense	Net Revenue from Operations
Alaska Airways Inc.	185	111,401	211,886	82.6%	4,496	\$ 14,264.58	\$ 9,542.83	\$ 888.38	\$ 25,315.80	\$ 4,237.78	\$ 14,920.88 (red)
Am. Airways Co., New York-Libon	65	211,485	775,680	86.3%	26,880	22,072.62	130,298.24	93,687.93	250,807.30	173,397.51	77,209.79
Am. Airways Co., Pacific Service	277	791,216	1,744,584	81.4%	19,951	30,003.00	13,598.07	19,875.68	63,506.75	206,020.10	177,885.22
Am. Airways Inc., Eastern Div.	7,274	3,537,508	8,235,541	67.6%	2,995	294,604.48	324,570.36	21,444.58	713,509.51	859,347.71	141,857.70
Am. Airways Inc., Western Div.	3,488	1,424,864	3,518,121	93.9%	2,995	151,215.10	135,361.88	45,433.45	332,010.43	310,325.46	27,404.98
Am. Grace Airways Inc.	1,198	1,144,234	1,898,342	71.7%	00	82,573.80	125,030.15	18,749.77	280,723.79	203,378.00	87,347.79
Alma Airways Inc.	27	1,225	2,310	81.0%	00	200.40	00	00	301.54	301.54	00
Alma, Medellin & Central Airways Inc.	80,449	112,854	44,850	44.8%	00	5,664.41	00	184.63	21,881.11	11,807.60	373.31

a All monthly reports to the CAA are subject to revision and year-end adjustment.

b Unreported by company.

c Includes following adjustments covering prior months: reversal of 1939 items previously recorded in 1940, \$91,748.20; adjustment of depreciation, first quarter, 1940, \$4,978.28. Actual net revenue from April operations, company indicates, is \$91,161.67.

SUMMARY OF U. S. AIR TRANSPORT OPERATIONS FOR APRIL

(Compiled and Mileage Costs Computed from CAA Reports a)

	Rev. Pass.	Rev. Pass. Miles	Avail. Seat Miles	Pass. Load Factor	Exp. & Frt. Lb.-Miles	Mail Lb.-Miles	Pass. Revenue	Mail Revenue	Operating Revenue	Operating Expense	Cost per Mile Fl.	Net Income (Before Income Taxes)	Total Assets
Western	64,876	23,887,162	34,846,714	88.33%	123,728,202	370,025,855	\$1,286,080.91	\$333,790.86	\$1,646,165.28	\$1,391,652.71	\$ 65	\$348,761.74	\$11,515,135.14
Alaska-Maine	1,367	21,023	499,460	42.05%	178,339	796,163	11,789.21	16,801.40	28,690.25	33,137.45	8.55	4,491.89 (red)	450,021.60
Alaska & Southern	9,612	3,193,704	9,573,880	87.33%	12,705,441	42,939,954	148,594.19	46,269.87	222,743.00	208,047.58	4.9	13,386.33	1,752,789.01
Alaska	3,532	3,035,480	1,326,781	77.89%	5,083,903	23,925,109	40,584.04	34,367.89	74,951.93	90,953.34	3.2	7,626.21 (red)	1,342,340.67
Alaska	1,066	323,384	630,573	81.28%	4,009,897	3,955,319	14,151.78	29,870.12	44,070.70	42,889.24	4.3	1,003.44	477,458.91
Alaska	4,209	1,071,903	1,744,584	81.44%	1,798,680	12,705,203	47,488.33	55,820.72	86,598.45	90,953.34	4.7	8,666.30	899,330.60
Alaska	30,751	13,557,776	21,301,703	63.85%	66,044,872	212,953,759	720,813.69	155,062.88	910,097.81	784,650.87	8.3	148,023.54	6,360,479.10
Alaska	743	197,243	801,720	24.60%	237,278	1,790,432	7,842.48	28,588.36	34,705.53	39,214.11	1.8	5,000.01	792,488.25
Alaska	3,709	381,250	827,037	72.34%	1,833,534	408,744	39,096.78	3,886.00	44,745.33	39,624.81	1.08	9,535.47 (red)	55,140.86
Alaska	117	27,887	87,288	31.72%	1,222,510	39,304.8	1,311.91	66,113.36	66,360.62	11,054.91	1.08	9,535.47 (red)	792,488.25
Alaska	1,807	428,848	1,222,510	81.32%	647,472	7,056,248	20,106.12	23,222.40	44,188.30	34,808.93	4.0	8,515.18	461,484.41
Alaska	10,076	3,822,021	8,709,747	40.44%	20,155,239	101,468,521	146,755.22	143,100.51	300,535.14	309,715.40	4.0	9,822.88 (red)	2,375,499.40
Alaska	18,168	1,889,193	4,377,011	89.32%	9,803,549	31,581,812	170,680.47	46,269.87	227,605.00	238,814.23	4.3	2,814.23	2,317,626.63
Alaska	23,999	11,680,949	21,031,318	85.84%	75,788,290	339,483,195	587,430.48	216,593.41	840,646.68	837,636.40	6.4	2,409.09	8,568,021.27
Alaska	32,680	18,088,607	24,006,868	66.92%	159,749,838	480,077,323	804,493.64	214,867.05	1,129,716.49	1,136,956.91	4.3	55,009.04	14,048,217.90
Alaska	3,557	1,169,714	2,036,535	90.71%	12,159,604	31,013,032	450,779.67	67,309.99	518,089.66	107,722.28	5.4	21,558.58	1,169,561.21
Alaska	1,634	48,720	88,380	88.67%	287,730	1,013,032	7,772.16	1,013.03	7,926.16	4,988.74	1.06	1,558.58 (red)	137,746.63
TOTALS	306,676	80,146,119	130,471,808	81.42%	492,028,068	1,632,136,345	\$4,107,447.21	\$1,894,460.84	\$6,012,468.47	\$6,403,333.88	...	\$407,433.11	\$84,163,181.81

a All monthly reports to the CAA are subject to revision and year-end adjustment.

b Total operating expenses divided by total plane miles; computed to the nearest half-cent.

BEZ ASKS FEEDERS

Seeks Routes Totaling 1,331 Miles on Pacific Coast

Applications for three feeder routes on the Pacific coast, totaling 1,331 miles, were filed on June 25 by Nick Bez, of Seattle, Wash.

The routes sought are: (1) Seattle to Oakland via Olympia, Aberdeen, Astoria, Portland, Salem, Eugene, Marshfield, Medford, Klamath Falls, Reading, Eureka, Ft. Bragg and Santa Rosa; (2) Seattle to Port Angeles via Bremerton and Port Townsend, and (3) Seattle-Mt. Vernon-Anacortes-Bellingham-Friday Harbor-Coupeville-Seattle.

Bez stated that operations would be conducted with four multi-motored 12- to 12-place second-hand planes, each costing about \$30,000. Schedules would be day visual contact only. The company seeks to carry mail, passengers and express.

During the first five years, the following losses from operations are contemplated: \$287,733, \$287,733, \$273,213, \$255,618 and \$255,618, respectively. Figures include no mail pay.

As of May 1, last, Bez stated that his assets were: cash on hand and in banks, \$2,000; accounts receivable, \$2,750; notes receivable, \$14,000; value of sundry listed stocks, \$39,720; cash value of life insurance policies, \$12,000; real estate (home), \$20,000; gold mining interests, \$75,000, and interest in salmon canneries and other fishing interests, \$245,000. He listed liabilities at \$14,500.

Western Air Express Makes Promotions; Keyser Advanced

Western Air Express recently announced personnel promotions, headed by George Keyser, former Salt Lake City district traffic manager, who was advanced to city traffic manager in Los Angeles. Keyser, with WAE for seven years, succeeds Hugh W. Coburn, recently named director of passenger service.

Other traffic department promotions include the appointment of Miss Donaldine White, for four years secretary to Thomas Wolfe, vice president—traffic & advertising, as city traffic manager for Great Falls, Mont. Jack Smith, former Great Falls traffic head, was transferred to manage the Butte and Helena districts.

DuRose Is Northwest's

New Supt. of Reservations

Northwest Airlines has named C. A. DuRose, company employee since 1933, to head a new division which will speed the handling of reservations, according to Croll Hunter, NWA president and general manager.

DuRose, as superintendent of reservations, will operate a plan whereby the Twin Cities and Seattle will be control stations for space on east- and west-bound flights, Hunter said. Later the set-up will be extended to Chicago.

Airline Appointments



King

Cussen

Stanley G. King, long engaged in the travel business, has been appointed assistant to Burck Smith, western agency manager of American Airlines, according to A. R. Bone, Jr., western sales manager for American.

George T. Cussen, former western manager of TWA, has accepted a position with American Airlines' sales offices in Chicago. He began his career in the transportation business in 1926 when he joined the Atchison, Topeka & Santa Fe Railroad in Los Angeles.

AA Opens Apprentice Course For Aero Engineer Graduates

American Airlines is instituting an apprentice engineer's course for selected graduate students of aeronautical engineering, according to William Littlewood, vice-president-engineering for AA, who explained the plan as the first specific course for apprentice airline engineers introduced by an air transport operator to train material for specific needs.

Attendance at evening lectures and examinations on subjects covered will be included in the training. The embryo engineers will be compensated during the course at a rate commensurate with similar plans operating in large industrial concerns, it was said.

Wall Gets Dispatcher Post

In United's Western Division

Claude Wall, station manager at Denver for United Air Lines since October, has been appointed chief dispatcher of the line's western division with headquarters in Oakland, according to S. V. Hall, vice-president of western operations. Wall will have charge of all dispatch from Denver and Cheyenne west. Ray Gohr, chief dispatcher for the eastern division, is in charge between New York and Denver and Cheyenne.

With Wall's promotion, R. E. Pfennig, vice-president of eastern operations, announced C. W. Eshelman, Cheyenne station manager, as his successor in Denver. Carl Hempel, station manager at Omaha, succeeds Eshelman at Cheyenne, and Frank Milligan, chief radio operator at Omaha, has been appointed station manager there.

Braniff Retires Lockheeds

Braniff Airways observed the completion of its 12th birthday month, June, by retiring the last of its 10-passenger Lockheed equipment, and effective July 1, all of the line's 30 daily flights were being operated with Douglas DC-2's and DC-3's. Delivery of an additional fleet of new DC-3's provided the equipment for Braniff to retire its Lockheeds.

CCA Takes 2 DC-3's

Canadian Colonial Airways has taken delivery on two new Douglas DC-3's, equipped with Wright Cyclone engines, at La Guardia Field, New York. The transports are being placed in service immediately on the New York-Burlington-Montreal route.

Cory Named TWA Assistant

Virgil Cory, feature writer for TWA for the past year, has been appointed assistant system news bureau manager in connection with consolidation of the line's public relations and news departments.

NWA Offers Circle Tour

Northwest Airlines has announced, following arrangements with other airlines, that it has inaugurated a new circle tour which includes Minnesota's "Ten Thousand Lakes," Bad Lands of North Dakota, Rocky Mountains, Grand Coulee Dam, Bonneville Dam, Coeur d'Alene and the Columbia River. Cost of the tour from Chicago, on the eastern rim, is \$205, according to A. G. "Bert" Kinsman, NWA general traffic manager.

ALMA to Represent National

Air Line Mechanics Association, International, has been designated by the National Mediation Board to represent mechanics of National Airlines Inc., for purposes of the Railway Labor Act following a check which showed that 24 of 31 employees eligible to choose representatives favored ALMA. The Board states its services "were invoked by the ALMA, International, to settle a dispute as to who may represent maintenance personnel, including the shop superintendents, chief mechanics, inspectors, mechanics and apprentices, employed by National Airlines. . . . The records of the Board do not show that at the time application was received these employees were represented by any organization or individual."

Sample Becomes Supervisor

Effective July 8, William Sample Jr., who has been sales correspondent in American Airlines' general offices, became supervisor of reservations and ticket offices in Los Angeles. Sample started with American in 1935.

Ralph Radcliffe Jr., AA sales manager in Oklahoma City, replaces Sample as sales correspondent. He started with the line in 1936.

Earl Bouilly, sales representative in Chicago, becomes sales manager in Oklahoma City. Bouilly has been with American since 1931.

Braniff Photo Winners Named

Braniff Airways has announced winners of its photomural contest which was held to procure examples of distinctive photography showing scenes indigenous to Braniff's route. From 3,679 entries eight pictures were selected and made into photomurals with which to decorate cabins of the line's new DC-3's. Winners in the competition are Robert Yarnall Richie, New York City; J. W. McManigal, Horton, Kan.; Larry Kronquist, west coast artist and photographer; Z. P. Meyers, Oklahoma City, Okla. and Horace Peterson, Dallas, Tex.

Air France Link Suspended

Air France has suspended service to Brazil, leaving monthly flights of an Italian company as the sole direct air link between Europe and Brazil. Brazilian authorities are reported considering sending European-bound mail by way of New York and Lisbon.

AA Opens Syracuse Office

American Airlines opened its first downtown Syracuse, N. Y., office in the Onondaga Hotel June 24. Theodore Gould is city sales manager in charge of the office.

PAA Transfers Leader

Karl Leuder, Pan American Airways section superintendent at Honolulu, has been transferred to assistant operations manager of the Atlantic division at LaGuardia Field, New York.

Sale of U. S. Airline Ships For War Use Is Reported

Two U. S. airlines, according to recent unconfirmed reports, have sold transport equipment which eventually will see war-time service on the side of the Allies.

Chicago & Southern Air Lines is reported to have sold "several" Lockheed Electras to Canada or Great Britain. The line owned five such craft when Douglas equipment was adopted recently.

Pennsylvania-Central Airlines, according to one source, has sold four Boeing 247-D's to Charles Babb, west coast used plane dealer. Although sold to Babb, the ships were said to bear Canadian markings and to have been flown from Pittsburgh by Canadian pilots. Press dispatches said 10 Boeings, formerly used by airlines, had been flown to Canada. Penn-Central recently operated 12 Boeings.

United Air Lines Installs 5,000-Watt Transmitters

To provide improved communication between the ground and planes in flight, United Air Lines has installed five-kilowatt radio telephone transmitters at New York and Chicago, with others to follow at Cleveland, Denver, Salt Lake City, San Francisco, Portland and Los Angeles.

Units of the transmitter, manufactured by Federal Telegraph Co. of Newark, are in contiguous sections and consist of power supply, modulator, air filter, and either two or three radio frequency sets with a range between 2,000 and 15,000 kc.

Similar transmitters are used by Braniff Airways at Kansas City and Dallas.

UAL Enlarges Seattle Office

Floor space for United Air Lines' office at 4th Ave. and Union St., Seattle, will be doubled in August, according to Harold Cray, vice-president in charge of traffic.

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Maintenance Shop contains complete equipment for aircraft maintenance: Lathes, grinder, drill-press, portable buffer, welding and battery rebuilding, sheet metal, cadmium plating apparatus; starter, generator, carburetor, magneto, and spark-plug testing equipment.

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are making good today with 48 different companies and are in such demand that many of them have positions waiting for them on graduation.

Says Walter E. Gilbert, Divisional Superintendent, Canadian Airways, Ltd., "There seems to be a 'certain something' your school imparts to the men trained at Oakland which gives them not only the sheer technical skill but also a degree of poise and balance which makes it possible for them to fit into an organization."

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In . . . months we shall probably need the following personnel. Please send us brief biographies of men likely to be available then.

Name Company
Address

TWA Stratoliner Tops in Passenger Comfort; Cuts Flying Time to Coast

Supercharged Cabin and 4-Engined Performance Opens New Era;

Regular Service Started July 6

By W. W. P.

Transcontinental & Western Air, Inc., inaugurated its long-awaited Stratoliner service between New York and Los Angeles July 6, thus launching the four-engined transport era in this country. It wasn't so many years ago, six I believe, that TWA pioneered the fastest coast-to-coast schedule with Douglas DC-2's and it was my privilege at that time to make one of the first over-night flights in the days when an over-night hop across the country was no small thrill.

It was my pleasure to be a passenger on the first TWA "rehearsal" flight in the Boeing Stratoliner which left Kansas City for Los Angeles June 25 and it can be said without exaggeration that the Stratoliner offers a thrill quite comparable to that which accompanied my first coast-to-coast flight some years ago. It isn't that the Stratoliner is so fast, although it does knock down the time schedules by over an hour. It is simply the fact that the Stratoliner is a stage ahead of everything else in passenger comfort, in roominess, in luxury.

There was ample opportunity to find out all about the Boeing, for the first rehearsal flight—appropriately called Flight A—was a daylight trip from Kansas City westward, while the return trip straight through to New York (3 stops) was a sleeper hop. There is no doubt that the Stratoliner will be a drawing power for passengers. Whatever skepticism this writer had about the interior seating and berth arrangements has vanished. But I'm ahead of my story.

Starting out of Washington on Pennsylvania-Central on June 24, it was a pleasure to ride with a hostess who was just about tops in efficiency. The name on the board said something like "J. Purlicker," but whatever her name, PCA can know that it has one hostess who ranks at the top of the list. At Pittsburgh an hour lay over brought a welcome chat and a cup of coffee with Fred Crawford, PCA's executive vice-president, and George Mason, PCA's very prolific and imaginative public relations director (press agent to you).

At Kansas City, all was efficiency at TWA, as usual, with preparations all made for the No. 1 flight for passengers on regular schedules. One would not have known that this was merely a rehearsal, for everything went along in a tip-top shape except for this correspondent's arrival at the airport just two minutes before take-off.

No Ear Trouble

Mark it down in your notebook that the Stratoliner has achieved one of the greatest boons air travel has yet had. At no time either westbound or eastbound, despite altitudes of 18,000 and 19,000 feet and despite a rate of climb of 800 to 1,000 feet a minute, was there the slightest discomfort to the ears. Not only that, but on getting out of the ship, no matter what the flying time had been, there was no feeling of fatigue. It is no discredit to air travel to confess that ear trouble and that slightly fatigued feeling at the end of a long cross-country flight, have been minor handicaps to many air travelers, although in no way subtracting to the general advantages of this form of travel. Ear trouble and a "fagged out" feeling differs with individual passengers. But I am sure that it will be a rare passenger indeed who is even able to notice the change in altitude or who feels anything but alert and fresh on alighting at the end of a 2,000 or 3,000 mile trip.

Flying at 18,000 feet between Kansas City and Albuquerque proved to be

very routine. The plane is so large and the flying level so high that less attention is paid to the ground. There isn't much difference from flying at 8,000 or 10,000 feet except that everything on the ground is farther away. But being farther away from the ground, one is apt to pay little or no attention to the outside except to glance out occasionally.

Paul Richter, executive vice-president of TWA who was on board, pointed out that TWA has had to pioneer in high-altitude flying. Winds aloft will be the biggest problem to tackle because there is no information available or obtainable as to winds at 18,000 feet. They have to be estimated by forecasts and maps. Weather reporting apparatus is efficient for reporting temperature and pressure—but this apparatus can't report winds. Headwinds of as much as 98 mph. have been encountered in Stratoliner test flights and after two years of study, TWA still will have to depend upon actual experience and its own observations.

Supercharger Works

The pressure equipment goes into operation when the plane reaches 8,000 feet. From there to the plane altitude of 14,000 feet, the inside cabin pressure remains at 8,000 feet—a very comfortable level. As the plane goes above 14,000 feet, the inside pressure also increases but not in direct ratio. For example, at 18,000 feet, the inside pressure was equal to about 11,300 feet. But the increase is so gradual that no effect is felt. It is probable that TWA will operate the Stratoliners at from 16,000 to 18,000 feet, but the ships can go above 20,000 if necessary to avoid storm areas and no passenger discomfort should be possible.

As you probably know by now, there are four compartments seating six each, plus a row of single seats for nine. This writer had been skeptical about the popularity of these compartments with three passengers seated opposite three passengers. But the compartments are so roomy and the seats so generously luxurious that all skepticism has been removed. As a matter of fact the arrangement might well prove very popular with the traveling public. The compartments are very much like those in European trains except that they are much more comfortable.

Tables are set up for meals and they are, incidentally, ideal for card or other games. The passengers on the aisle, however, must eat from trays, as will the passengers in the row of single seats. But for those at tables the meals will be just like those served in the better restaurants. Silverware, china—all laid out in style. We predict that meals will take longer to be served on the Stratoliner, even with two air hostesses, but we also predict that a lengthy meal will become a

popular custom to while away the time on the long hops.

Cliff Mutchler, TWA's able superintendent of transportation, was on board to supervise the first meal "rehearsal." His problems have been legion, but he seems to have solved them all, especially in the hot meals which he has worked out in detail. The hot dish is served in casserole, and it's a swell idea. The Ritz doesn't serve better meals than TWA.

The men's dressing room is tastefully fixed up, and the women's "powder room" tops everything in aircraft to date for space and accessories. Women travelers will find more conveniences and more attractive decorations than on any railroad train. The galley is much larger than on any other plane and should be inspected by those who doubt that a full-sized restaurant (except the kitchen) could be tucked away so neatly and completely in a small area.

Capt. Bryan Supervises

From Kansas City to Albuquerque Capt. E. W. Fleet was in charge, with A. E. MacKille as first officer and R. R. DeCampo as flight engineer. Capt. Otis Bryan, TWA's shy but able chief pilot, was on deck throughout the whole trip seeing that the boys pulled the right levers at the right time. Mrs. Bryan and Mrs. Richter were among the first flight passengers. D. R. Eldridge, assistant to the superintendent of operations, was checking over everything with a fine tooth comb and didn't miss a thing.

Thanks to Capt. Bryan, your correspondent had a grand control room view of the Grand Canyon on the way out, and incidentally, the control room is a story in itself. It makes one feel that airplanes are really here to stay as long as the pilots can find out what all the gadgets are for.

From Albuquerque to Los Angeles, Capt. Si Morehouse was in charge with Ralph Pusey as first officer. These two gentlemen were also on the first leg of the return trip.

Also on the first flight were Theon Wright, TWA's public relations director; Virgil Cory, assistant manager of the TWA news bureau, and Justin Bowersock, aviation editor of *The Kansas City Star* and winner of the TWA newspaper trophy for 1939.

Sleeping on the Stratoliner is guaranteed perfect. Your correspondent, being somewhat weary from two nights in Hollywood, was very desirous of trying out the mattresses. So after leaving Albuquerque eastbound, he piled into the front lower and now holds the long distance sleeping record for the nation—from New Mexico to eastern New Jersey. About what it's like sleeping at 19,000 feet your correspondent has little to say. He slept. Having done so, he missed Tommy Tomlinson's expert flying on top of a summer squall between Chicago and New York.

As you doubtless know, you sleep cross-wise on the Stratoliner, not lengthwise as in a DC-3. I had had some doubts as to the practicability of this arrangement, but no more. The berths are very long, very comfortable, and your correspondent would be at a loss to describe any more comfortable method of getting in the eight hours we all are supposed

to have each night to keep good and healthy. It might be added that the hostesses have a real job on their hands to make up the Stratoliner berths, but they seem to be able to do it without difficulty. Incidentally, a heavy curtain divides each compartment affording a material amount of privacy. The DC-3 brought sleeping comfort to aviation but the Stratoliner advances it along the high road a few more stages.

Operating time is being effectively cut down. With speeds of over 200 miles per hour, the Stratoliner is actually, about 20 miles per hour faster for ordinary cruising operations. I have no doubt that TWA could cut much more than an hour off the schedule if it desired. It's playing the Stratoliner conservatively which is to the good. One can leave New York at 9:30 p.m. this summer and be in Los Angeles next morning at the usual time. Our actual eastbound elapsed time was 14 hours, 33 minutes but headwinds delayed us 30 minutes. This is way below the 16 hour schedules now being flown. Westbound the Stratoliner will maintain a 14 hour 49 minute schedule and probably less as time goes on.

Before I get a note from Ronald Gail of Wright Aeronautical I'd better mention that the Wright 1100 hp. Cyclones functioned so smoothly that I wondered why TWA bothered to have engines at all.

Kasper Clicks

As one final comment I would like to pay a humble tribute to Capt. S. M. Kasper, the TWA pilot who flew me from Pittsburgh to Kansas City in a DC-3. I'm told that Kasper can throw any horse merely by trying to get astride it—at least that's the legend in the western areas. But I'll say this for Kasper—he made such perfectly smooth landings at Columbus, Dayton, Indianapolis and St. Louis that I finally sent a note up to him asking how in the deuce he could do it. Back came the note, "By the grace of God and luck." It must have been more than luck. I've landed many, many times in DC-3's, but that boy has got those ships charmed. He's perfect.

In closing, TWA has one feature which it can do well to develop. That is the radio service for passengers. The new earphones are fine. Nothing whies away the time better than to listen to radio programs. But the company will have to put the hostesses through another day of training. For some reason the female sex doesn't seem to have any mechanical sense about tuning radios, consequently passengers get disgusted and put aside the earphones after having their ears cracked by loud blasts of static and other noise. To my mind the radio programs are an exceedingly attractive feature. The presence of radio on a ship would determine the choice of my patronage. TWA has made a commendable effort and all it needs to do now is to teach the hostesses how to operate them. Maybe it was the hostess on my particular ship; she didn't have, or at least said she didn't have, a radio log and she sure picked out some awful programs for the passengers.

Be that as it may, the Stratoliner is now in service. It's a fine ship, a new era of air travel. It is the last word in comfort. TWA says in its press releases that passengers can now see a "new world" in the "subatmosphere." Doubtless many will be duly impressed by the sights at 18,000 feet. But I think they'll be more impressed by the comforts of this new air giant. It's plenty O. K.

NA Employees Get Bonus

North American Aviation Inc. directors have voted an employees' salary bonus amounting to one week's payment to those on an hourly basis and to salaried employees whose rate is less than \$200 monthly. About 2,600 employees will benefit from the bonus.

Mercury to Menominee

Mercury Aircraft Co. Inc., now located at Knoxville, Tenn., will locate its factory in Menominee, Mich., where a 20,000 sq. ft. site has been selected, according to a report from the Menominee Chamber of Commerce.



Passengers on the first eastbound transcontinental "rehearsal" flight as they arrived in New York June 28. In the group were newspaper and magazine writers and company officials. Fifth from left is Paul Richter, TWA Vice-President. Tommy Tomlinson, V.-P. who was pilot from Chicago to New York, is shown at top of steps.



Selects CYCLONE ENGINES for the Stratoliners



A lone Cyclone engine points its nose to the sky ... and with a roar of released energy, a TWA "flying laboratory" takes off to explore the stratosphere. Volumes of data are collected on the upper air, pointing to definite advantages in flying overweather. There a "mill-pond" smoothness prevails and, with super-charged engines, planes fly faster.

That was six years ago. Today sub-stratosphere travel is an accomplished fact as the 4400 horsepower of four great Cyclone engines speed the huge Boeing Stratoliner on the new overweather skyway—and passengers may relax in the comfort of an altitude-conditioned cabin and enjoy a new luxury in air travel.

From the beginning of modern, high-speed, deluxe air travel inaugurated by TWA, Wright has supplied the engines. When larger and faster equipment was needed, Wright was ready with a heavy-duty Cyclone engine with an operating life approaching 2,000,000 miles. This same type of Cyclone engine now powers the epoch-marking new Stratoliners, bringing an unapproached background of operating experience which makes it the world's outstanding airline engine.

WRIGHT AERONAUTICAL CORPORATION
PATERSON, NEW JERSEY • A division of Curtiss-Wright Corporation

The four Wright Cyclone engines which power the TWA Boeing Stratoliners belong to a family of engines with more than 600,000,000 miles of airline performance to their credit. Cyclone engines were used by Howard Hughes in his record round-the-world flight of 3 days 19 hours, and today one may circle the globe on regular airlines behind Cyclone engines. The U. S. Army's famous Boeing Flying Fortresses, and all other production Army Bombers, fly with Cyclones, as do many combatant planes of the U. S. Navy.

WRIGHT

AIRCRAFT ENGINES

Breese Flies Plastic Trainer



Following a test flight at Los Angeles Metropolitan Airport, Van Nuys, Cal., Vance Breese pronounced the new Timm PT-160-K "Aeromold" plastic trainer "all that could be anticipated in the way of stability, maneuverability and all-around performance." R. A. Powell, vice president and general manager of Timm Aircraft Corp., stated that he felt that the successful flight of the "Aeromold" trainer opened an entirely new field of aircraft operation. Walter A. Hite, Timm chief engineer, explained that the process of manufacture involved the forming of rough structures from very thin spruce plies

1/24th of an inch thick which are thoroughly impregnated with a new type of phenolic resin plastic material. This new plastic substance is a secret development of the Timm company. After the structure is impregnated it is shaped in a precision mold to the exact size, shape and contour desired.

The plane has a wing span of 36 ft.; length, 24 ft. 10 in.; height, 7 ft. 9 in. It is powered by a 160-hp. Kinner engine and develops a top speed of 140 mph., cruises at 129 mph. and has a landing speed of 42 mph. with flaps.

Competitive Exam Announced

The U. S. Civil Service Commission has announced open competitive examinations for aeronautical engineering draftsmen. Examinations cover five grades, with salaries ranging from \$1,620 to \$2,600 a year. Applications must be on file with the Commission's Washington office not later than Aug. 5 if received from states east of Colorado, and not later than Aug. 8 if received from Colorado and states westward.

LA Airport Opening Set

Los Angeles Municipal Airport has been tentatively scheduled for completion and occupancy by transcontinental and international airlines on May 1, 1941.

Smith Heads Opa-Locka Work

Lt. Walter S. Smith, U.S.N., has been appointed resident construction engineer in charge of the \$3,500,000 emergency naval air station at Opa-Locka, Fla.

Winston-Salem Gets \$150,000 for Airport

The city of Winston-Salem, N. C., has received a gift of \$150,000 from the Z. Smith Reynolds Foundation to construct an administration building, extend runways and install field lighting at the local airport. A new 4,000-ft. runway will be constructed, and the prevailing wind runway extended to 3,600 ft.

Capt. E. V. Rickenbacher, president of Eastern Air Lines, is said to have assured the city that his company will inaugurate northbound and southbound service at the airport if satisfactory improvements are made.

LG's Hangar No. 8 Goes Up

Foundation work having begun in March, steel uprights and girders are now going up on a new landplane hangar, No. 8 at LaGuardia Field, New York, which is scheduled for completion by Dec. 31. Costing \$1,150,000, the hangar will be 375 by 165 ft. and will consist of a two-story office building 40 ft. wide on one side.

Arrow Airport Sold

Lincoln, Neb.—Arrow Airport north of this city has been sold to Service Life Insurance Co. of Omaha for \$16,991.42. The insurance company instituted foreclosure proceedings against the airport and adjacent property last June.

Lt. Tibbs Joins Southern

Lt. O. E. Tibbs, Air Corps Reserve officer, has joined Southern Aircraft Corp., Houston, Tex., as test pilot. It has been announced by Willis C. Brown, company president.

Officials Attend Clarksburg Dedication and Christening

Thirty thousand spectators attended dedication ceremonies of the Clarksburg, W. Va., Airport on June 16, at which time a group headed by Col. Louis Johnson, assistant secretary of war, flew in an American Airlines Flagship from Washington, D. C., to the airport. At the field, Mrs. Johnson, wife of the colonel, christened the American transport "Flagship Clarksburg."

Attending the ceremonies were Robert H. Hinckley, Gen. H. H. Arnold and Andrew Edmiston, West Virginia Congressman. Clarksburg officials helping to stage the event were John A. Kennedy, publisher; J. E. Matthews, chamber of commerce president, and George A. Finly, head of the celebration committee.

FTC Cites Flying School

Misrepresentation in the sale of a correspondence course in aviation is alleged in a Federal Trade Commission complaint issued against Lemo Hood, trading as St. Joseph School of Flying, St. Joseph, Mo., it was learned on June 27. Twenty days were granted the respondent for filing answer to the charges.

Flight Instructor Honored

When completed, the municipal airport at Dodge City, Kan., will be named Stone Field in honor of Col. E. L. Stone, army flight instructor at Ft. Leavenworth, who was fatally injured recently taking off from the field.

Southern Aircraft Tests Trainer



Now undergoing manufacturer's flight tests preparatory to the beginning of production at Houston, Tex., is Southern Aircraft Corp.'s model BM-10 primary trainer, designed to give ease of maintenance and replacement of parts and to offer maximum visibility.

Fuselage is of welded steel tube construction and wings, tail group and control surfaces are fabric covered over wood or metal frames, internal construction being optional.

The following 225-hp. engines are used to power the BM-10: Continental

W-670-K; Jacobs L-4, and Lycoming R-680-B4C, as well as the 235-hp. Wright R-760-ET.

Specifications follow: Span 34 ft. 1 in.; length, 26 ft. 3 in.; height, 9 ft. 8 in.; power loading 12.27 lbs./hp.; wing loading, 8.85 lbs./sq. ft.; empty weight, 1,947 lbs.; useful load, 753 lbs.; gross weight, 2,700 lbs. Performance: High speed, 123 mph.; cruising speed, 105 mph.; stalling speed, 50 mph.; service ceiling, 15,000 ft.; range at cruising speed, 365 mi.

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- Introducing the nation's first four-engined transcontinental service, TWA adds pressurized cabins and overweather flying to America's long list of advancements in air travel.
- In the pilot's room of each of the giant new Boeings, a Sperry Gyro-Horizon, Directional Gyro, Gyropilot and the Automatic Radio Direction Finder aid in the navigation problems of the newest form of air transport.

SPERRY GYROSCOPE COMPANY, Inc.
BROOKLYN, N.Y.

Plant Expansion, Production

2½ Million Sq. Ft. in Extensions Planned by 11 Manufacturers

Hall-Aluminum, Vultee, Lockheed, Brewster, C-W, Douglas Lead

ELEVEN U. S. aircraft, engine and accessory manufacturers in the last fortnight revealed that they would add 2,513,000 sq. ft. of working space to present floor area, while seven major aircraft plants on the Pacific coast formed plans for additions and expansions which will add 3,400,000 sq. ft. at a cost of \$20,000,000. At least two parts of the west coast expansion under consideration have been announced previously.

Simultaneously it was learned that southern California manufacturers have no intention of moving existing plants to midland regions. The west coast industry will concentrate its principal expansion in that area, but some companies have admitted readiness to prepare "auxiliary, branch factories" in middle western towns if and when the War Dept. so requests.

"Literally hundreds" of offers have come to all west coast plants from mid-west cities, the companies revealed. Under consideration at present, should such an expansion program come into being by demand of the military services, are such widely separated localities as Big Spring and Dallas, Tex.; Ogden, Utah; Denver, Colo.; Terre Haute, Ind., and the Tennessee Valley.

\$5,000,000 Project Reported

Largest sum to be spent for new plant space is the \$5,000,000 figure for a new factory in Dallas for Hall-Aluminum Aircraft Corp., according to unconfirmed reports. Hall-Aluminum's present plant is at Bristol, Pa., and the new unit is planned for production of warplanes and parts, it was said. The Dallas plant would have a payroll of \$750,000 to \$1,000,000 a month, the report indicated.

Other companies figuring in the avalanche of expansion news are Brewster Aeronautical Corp., Curtiss Propeller Division of Curtiss-Wright Corp., Douglas Aircraft Co. Inc., Edo Aircraft Corp., Jacobs Aircraft Engine Co., Lockheed Aircraft Corp. and its subsidiary, Vega Airplane Co., Piper Aircraft Corp., Taylorcraft Aviation Corp., United Aircraft Corp. and Vultee Aircraft Inc.

Three west coast companies—Douglas, Lockheed and Vultee—participated in simultaneously timed, individual news releases. Broadly, each of the releases stated that present production floor space in the west, totaling about 4,800,000 sq. ft., will be increased to more than 8,200,000 sq. ft. Cost of erecting buildings and equipping them with tools and machinery will reach \$20,000,000.

Lockheed and Vega Doubling Facilities

The program announced by Lockheed and Vega calls for additions to the two Burbank, Cal., plants that will more than double present facilities by adding approximately 1,067,000 sq. ft. Cost will be approximately \$4,000,000. It is not contemplated that any new financing will be necessary for the new facilities.

Actual construction has been in progress for the last several weeks, according to Robert E. Gross, Lockheed president.

Ground was broken on July 2 for a new \$3,500,000 plant for Vega on a 30-acre plot of ground adjoining Union Air Terminal at Burbank. Courtlandt S. Gross, newly elected Vega president, said the new plant will cost more than \$2,000,000, and that machinery and equipment will represent an additional expenditure of \$1,500,000. Contractors will work at top speed to complete the factory within 160 days, he said. For capacity operation the plant will employ between 8,000 and 10,000.

First units to be erected will have a floor area of 579,000 sq. ft., plus a concrete ramp of 218,000 sq. ft. for auxiliary outdoor assembly work. Plans already approved call for future additions of 310,000 sq. ft.

Vega, with a payroll of 1,400 persons, now occupies a factory in another part of Burbank. On Jan. 1, 1940, the company employed but 150 persons.

Brewster Ranks Fifth In Space, Company Claims

Brewster, to speed production on \$44,628,000 of orders, has more than doubled its total floor space by leasing the Ford Motor Co. assembly plant in Long Island City, N. Y., which composes 482,000 sq. ft. As a result of the addition, the company stated, Brewster becomes, in point of floor space, the largest airplane maker in the New York area and the fifth largest in the U. S.

The company will have floor space totaling 884,000 sq. ft., of which 192,000 are contained in the building leased from the city of Newark, N. J., at Newark Airport, and 210,000 in the plant which Brewster bought late in 1938 from Metropolitan Life Insurance Co. at Long Island City.

Workers in the Newark plant, within a recent 30-day period, have increased about 100%, and the Long Island City plant force was increased 50% in the same period, according to James Work, president.

Work, on June 6, signed an order with foreign government representatives at Newark for \$26,572,000 of fighters and dive bombers for export.

Vultee Increasing Space Over 140%

Vultee, through its president, Richard W. Millar, announced plans which will more than double existing facilities. First part of the program has been undertaken and is scheduled for completion this month.

Cost of the entire project, including plant, high-speed machinery and equipment, will approximate \$2,900,000. Floor area when completed will total 802,000 sq. ft., an increase of 142% over the 331,000 sq. ft. now available.

Work on the first unit of 125,000 sq. ft. is already under way at Vultee and is being expedited by "all possible means."

Vultee currently is employing 3,500 persons and is working two 58-hour shifts weekly.

Company owns in fee 81 acres and recently obtained options on an additional 67 acres which adjoin the present area.

As the result of an expedited production program, Vultee, during the final week of June, delivered 17 planes most of which constituted initial deliveries on an Army contract for basic trainers while the balance was for export.

Factory is working day & night at full production capacity on U. S. Army and export orders, according to Don I. Carroll, vice-president in charge of production.

Curtiss Propeller Builds 3rd Plant

Curtiss Propeller of Clifton, N. J., will double its present manufacturing facilities of 220,000 sq. ft. by construction of a one-story factory on a site adjoining Caldwell-Wright Airport near Caldwell, N. J. Guy W. Vaughan, president of Curtiss-Wright Corp., has announced. Scheduled for completion by the end of September, the unit will comprise approximately 230,000 sq. ft. and will be constructed of steel and brick. The propeller division's existing space is located at Clifton and at Pittsburgh, Pa.

Approximately 1,500 workmen will be employed in the new plant, according to Robert L. Earle, vice-president of C-W and general manager of the division. About 1,600 operators are now employed in the Clifton and Pittsburgh units.

1,100 New Employees Is Douglas Requirement

Douglas, third of the west coast companies announcing specific plans for expansion, will add to its El Segundo, Cal., plant to the extent of 112,000 sq. ft., costing approximately \$200,000. New building will be of steel frame and corrugated iron construction. It will provide working space for "at least 1,100 new employees."

Enlargement of test work and service facilities now used by Douglas on Los Angeles Municipal Airport property also is under contemplation.

NA, Northrop, Boeing, Consair are Active

North American Aviation Inc. at Inglewood, Cal., with present space of 770,000 sq. ft., and Northrop Aircraft Inc. at Hawthorne, Cal., with 180,000 sq. ft., are expected to announce fur-

ther expansion plans later, supplementing the simultaneous west coast releases of the last fortnight. Northrop is expected to add 222,000 sq. ft., bringing its total to 402,000.

Announced earlier, but included in the west coast totals of 3,400,000 sq. ft. costing \$20,000,000, reported above, were projects by Boeing Airplane Co. of Seattle, Wash., and Consolidated Aircraft Corp. of San Diego, Cal. Boeing is spending approximately \$2,000,000 including principal equipment, for an additional 600,000 sq. ft., to bring its total to 1,375,000 sq. ft.

Consolidated, after present construction is completed, will have the "largest integrated aircraft plant" in America with 1,910,000 sq. ft. of covered and uncovered manufacturing space and 954,440 sq. ft. of contiguous airport land under option for further expansion. Construction now under way involves \$2,000,000.

Jacobs Will Double Space at Pottstown

Jacobs, the only engine maker announcing a major expansion, will more than double its present floor area, machine tool equipment and personnel at Pottstown, Pa.

Due to the efficiency of the new equipment, it was said, company's production capability will be more than doubled.

Expansion will be entirely at the company's present location with completion scheduled before Oct. 1.

Piper Works Against Big Influx of Orders

Working against a backlog exceeding \$1,250,000 and an "unprecedented" influx of new business, Piper, with facilities at Lock Haven, Pa., has started building two additional wings to the present plant which will include 44,000 sq. ft. of floor space, bringing total space to approximately 160,000.

Taylorcraft Feels Boom, Rushes Building Plans

Further evidence of a boom in light-plane sales is the report from Taylorcraft at Alliance, O., that production has been stepped up to two and one-half times that of a year ago. Plans are being rushed for construction of additional space of approximately 21,000 sq. ft., bringing the total to an estimated 43,000 sq. ft.

Taylorcraft's unfilled orders at the end of June stood at more than \$200,000, an increase of some 1,300% over a year ago, and orders received for the first six months totaled 504 units against 201 in the first half of 1939, a gain of 151%.

Pontoon Business Good; Edo Spends \$125,000

Increased orders for pontoons has resulted in plans by Edo Aircraft at College Point, N. Y., to increase space from 20,000 to 40,000 sq. ft. at a cost of \$125,000.

Addition will consist of a brick and steel building with dimensions of 165 by 200 ft., together with a new boiler plant, to be completed in eight weeks.

United Aircraft Corp. Leases Storage Space

United Aircraft at East Hartford, Conn., has leased 19,000 sq. ft. of space at Manchester, Conn., for storage purposes. The corporation will take over the entire first floor of a three-story mill building.

Southern Aircraft Plans Production at Houston

Southern Aircraft Corp. plans to go into production on its BM-10 primary trainer at its Houston, Tex., plant where it occupies 62,000 sq. ft. of floor space and where tools, jigs and equipment are in readiness.

Chief engineer for Southern is Orin Moe.

Expansion News Involves Three Varied Mfrs.

Among other plane makers, engine builders and accessory producers, similar activity is anticipated.

Interstate Aircraft and Engineering Co., El Segundo, Cal., may spend \$300,000 for production facilities for its two-place trainer, the Cadet.

Menasco Manufacturing Co., manufacturer of engines and parts, will build a plant in Burbank to augment its Los Angeles factory.

Aircraft Accessories Corp. already has announced a \$300,000 expansion project.

Tabulation of Plant Expansions

Following is a breakdown of U. S. aircraft plant expansion programs, including work planned or under way. Some of these projects have been announced earlier:

Company	New expansion in sq. ft.	Total space after expansion	Expansion Cost ¹
Boeing Airplane Co.	600,000 ²	1,375,000	\$2,000,000
Brewster Aeronautical Corp.	482,000	884,000	
Consolidated Aircraft Corp.	230,000	1,326,000 ²	
Curtiss Propeller Division	230,000	450,000	
Douglas Aircraft Co.	112,000	1,512,000 ²	200,000
Edo Aircraft Corp.	20,000	40,000	
Hall-Aluminum Aircraft Corp.	47,000	92,000	5,000,000
Jacobs Aircraft Engine Co.			
Lockheed Aircraft Corp. (includes Vega Air- plane Co.)	1,067,000	2,073,000	4,000,000
Northrop Aircraft Inc.	222,000	402,000	
Piper Aircraft Corp.	44,000	160,000	
Taylorcraft Aviation Corp.	21,000	43,000	
United Aircraft Corp.	19,000		
Vultee Aircraft Inc.	471,000	802,000	2,900,000
TOTALS	3,335,000	9,159,000	\$14,100,000

¹ In most cases, this figure represents plant costs alone, and does not include tooling and machinery costs.

² Announced earlier.

³ El Segundo and Santa Monica divisions.



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DIVISION OF BENDIX AVIATION CORPORATION
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Canada Places Big Engine Order in U.S.

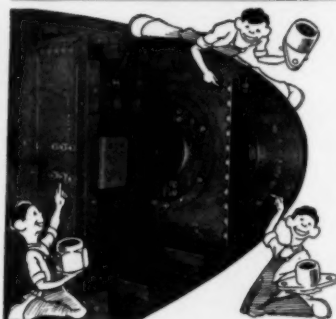
Canada has purchased \$8,000,000 worth of aircraft engines in the U. S. C. D. Howe, minister of munitions and supply, announced late in June.

Delivery of the engines will start immediately and the order will be complete in about nine months.

Howe did not reveal the type of engines ordered but said they will be used in Canadian-made Fleet and Avro Anson trainers.

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AIRCRAFT RADIO SYSTEMS

New Vega President



Courtlandt S. Gross
Newly elected president of Vega Airplane Co., who recently announced ground-breaking for a new \$3,500,000 Vega plant on a 30-acre tract adjacent to Union Air Terminal in Burbank, Cal.

C. S. Gross Heads Vega Airplane Co.

Courtlandt S. Gross, eastern aircraft executive, was elected president of Vega Airplane Co. on June 29 by the board of directors to succeed Mac Short, president of Vega for the last three years and a leading aeronautical engineer.

Short, also a director of Menasco Manufacturing Co., becomes vice-president in charge of engineering of the Vega company, subsidiary of Lockheed Aircraft Corp. in Burbank, Cal.

"Election of Gross is the first step in Vega's program to speed up production to meet national defense requirements," the announcement said.

Gross is the younger brother of Robert E. Gross, Lockheed's president, and since 1933 has been in charge of the New York offices of Lockheed and Vega. He was born in Boston and was graduated from Harvard University in 1927.

The younger Gross is vice-president and director of Aviation Capital Inc., a member of the executive committee of the Aeronautical Chamber of Commerce and a director of the Manufacturers Aircraft Association Inc.

Storz Joins Wright

Melvin Storz, formerly with the Bergen Evening Record in New Jersey, has joined the public relations staff of Wright Aeronautical Corp., Paterson, N. J., under Ronald Gail, director.

J. W. Hanes Elected to G. L. Martin Board

John W. Hanes, prominent figure in the field of banking and finance and former under-secretary of the Treasury, has been elected to the board of directors of Glenn L. Martin Co., Baltimore, Md.

A Martin director until Dec. 1937, when he was appointed a member of the Security and Exchange Commission, Hanes also was senior partner in the investment firm of Charles D. Barney and Co. and helped form its successor, Smith-Barney & Co. In July 1938, Hanes was appointed assistant secretary of the Treasury and

was elevated to the under-secretaryship the following November. He resigned his post last December to resume private business.

He is a former member of the board of governors of the New York Stock Exchange.

Jacobs Reported to Have Order for 2,000 Engines

Jacobs Aircraft Engine Co., Pottstown, Pa., is reported to have received an order for 2,000 aircraft engines from the Canadian government. Value of the award is estimated at approximately \$6,500,000.

Engines are believed to be of 330 hp. for use in the Canadian training program.

GOVERNMENT CONTRACTS

Awards of \$25,000 and Over

Release Date Shown

NOTE: Because of the increasing volume of government purchases, this column hereafter will include only awards of \$25,000 and over, with the exception of aircraft contracts which will appear regardless of amount.

AIRCRAFT

Stearman Aircraft Division of Boeing Airplane Co., Wichita, Kan., 6/26, airplanes and spare parts, \$3,779,628 (Navy Bureau of Supplies & Accounts).

ENGINES, PARTS, ACCESSORIES

Lycoming Division of Aviation Manufacturing Corp., Williamsport, Pa., 6/2, aircraft engines, \$1,541,448.89 (Navy Bureau of Supplies & Accounts).
Wright Aeronautical Corp., Paterson, N. J., 7/3, model R-1820-65 aircraft engines, \$1,488,272 (Air Corps).
Continental Motors Corp., Muskegon, Mich., 6/26, aircraft engines, \$1,482,725 (Navy Bureau of Supplies & Accounts).

MISCELLANEOUS

H. R. Olsen, Tacoma, Wash., 6/5, extension to barracks, Naval Air Station, Seattle, Wash., \$128,852 (Navy).
Standard Oil Co. (Inc. in Ky.), Louisville, Ky., 6/6, aircraft engine fuel, \$65,972 (Air Corps).
Blaw-Knox Co., Pittsburgh, Pa., 6/6, antenna towers, \$37,500 (CAA).
Pump Engineering Service Corp., Cleveland, O., 6/11, hydraulic pump assemblies, \$36,066 (Air Corps).
Aero Leather Clothing Co. Inc., Beacon, N. Y., 6/11, winter flying jackets & trousers, \$36,966 (Air Corps).
Switlik Parachute & Equipment Co., Trenton, N. J., 6/11, oxygen mask, \$35,360 (Air Corps).
Electrical Research Products Inc., New York, N. Y., 6/11, four-channel heterodyne vibration analyzer, \$46,300 (Air Corps).
Standard Oil Co. of N. J., New York, N. Y., 6/14, aircraft engine fuel, \$54,720 (Air Corps).
General Electric Co., Schenectady, N. Y., 6/14, supercharger assemblies, \$522,851 (Air Corps).
Brown & Root Inc., Houston, Tex., W. S. Bellows, Houston, Tex., & Columbia Construction Co., Oakland, Cal., 6/14, construction of Naval Air Station, Corpus Christi, Tex., \$23,381,000 (Navy).
Eckert-Fair Construction Co., Dallas, Tex., 6/15, construction of quartermaster warehouse, Barksdale Field, La., \$32,500 (War).
Aqua Systems Inc., New York, N. Y., 6/15, gasoline fueling system, Hickam Field, T. H., \$133,279 (War).
Earl S. Paul, Ogden, Utah, 6/15, fire & guard house, Hill Field, Utah, \$48,535 (War).
John Berntson, Salt Lake City, 6/15, barracks & post exchange, Hill Field, Utah, \$129,290 (War).
A. J. Honeycutt Co., Birmingham, Ala., 6/15, warehouses & commissary, MacDill Field, Fla., \$153,765 (War).
Grande & Voipe Inc., Malden, Mass., 6/15, construction of warehouse, Westover Field, Mass., \$78,325 (War).
Carl N. Swenson Co., San Jose, Cal., 6/15, alterations to hospital, Moffett Field, Cal., \$46,038 (War).
Marmon-Herrington Co. Inc., Indianapolis, Ind., 6/19, alteration of type A-4 balloon winch into A-8A truck, \$30,425 (Air Corps).
Roots-Connorsville Blower Corp., Connorsville, Ind., 6/19, cabin supercharger system, \$32,500 (Air Corps).
H. B. Nelson Construction Co., Atlanta, Ga., 6/19, electrical distribution system, Naval Air Station, Jacksonville, Fla., \$265,048 (Navy).
Batson-Cook Co. Inc., West Point, Ga., 5/11, additions to hospital, Maxwell Field, Ala., \$122,956 (War).
Westinghouse Electric & Mfg. Co., Dayton, O., 5/13, rebuild electric motor, \$55,300 (Air Corps).
Collins Radio Co., Cedar Rapids, Ia., 5/16, radio transmitters, \$79,564.80 (CAA).

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durability, and greater resistance to corrosion and abrasion of the hollow steel blade.

It is noteworthy that Curtiss Electric Propellers with hollow steel blades have been specified by the U. S. Army Air Corps for successive pursuit procurement over the past three years and for recent multi-engined bombers, and have been purchased by the Navy for the latest patrol and fighter planes.

CURTISS PROPELLER DIVISION

Clifton New Jersey

A Division of Curtiss-Wright Corporation

CURTISS *Electric* PROPELLERS

Washington Financial Review

SEC Registrations

TAYLORCRAFT AVIATION CORP.

Statement filed June 21 covers 30,000 shares of 50¢ cumulative convertible preferred, Series A (no par) stock, and 90,000 \$1-par common shares, reserved for conversion of preferred. Holt, Rose & Troster, New York, and Mackubin, Legg & Co., Baltimore, each will take 15,000 shares, but without firm commitment. Company will issue to each underwriter a transferable option for 10,000 shares, valid to Jan. 1, 1942. Price of current offering to underwriters & public will be reported by amendment.

Disposal of Proceeds: to pay unpaid balance of a note secured by a first mortgage covering airfield, plant, machinery and equipment, \$27,650; erection of additional plant and hangar space, with accompanying equipment, \$85,000; for development, \$40,000.

Sales in calendar 1938 were 366 planes (\$432,379); in calendar 1939 there were sold 480 planes (\$625,244) and in first five months of 1940 sales were 254 craft (\$333,179). Backlog at June 14 was 110 aircraft, or \$147,417, plus parts orders for \$1,029.

Company's plant, at Alliance, O., covering 18,000 sq. ft., adjoins a 135-acre airfield all owned in fee, subject to \$27,650 mortgage due Dec. 2, 1940. Board of directors on July 1 will adopt resolution increasing capitalization from 350,000 \$1-par shares to 560,000 shares. (500,000 common & 60,000 no par preferred). A class of 30,000 shares of preferred, designated 50¢ cumulative convertible preferred, Series A, is created.

Balance sheet at May 31: Assets \$377,937; current assets \$238,368 (cash \$59,943; notes & accounts receivable \$31,770; inventories \$145,957); plant & equipment \$72,549; intangibles \$44,837; deferred charges \$21,069. Current liabilities: \$91,612 (accounts payable \$21,115; mortgage note payable \$27,650; due to customers \$20,233; accrued liabilities \$22,614). Capital: 350,000 \$1-par shares authorized; 198,344 issued & outstanding. Surplus: (capital) \$69,720; (operating) \$17,822.

In five months ended May 31, net income was \$14,105. At June 10, Fairchild Aviation Corp. was beneficial holder of 47% of Taylorcraft outstanding stock, exclusive of 6% of such common stock owned by Fairchild but optioned to others.

AIRCRAFT ACCESSORIES CORP.

Registration covers 108,500 shares, Class A capital stock, 50¢ par, and 40,000 shares of Class B, 50¢ par, with Suto & Co. agreeing to use its best efforts to distribute publicly any Class A shares remaining unsubscribed by present share-holders (transferable warrants will entitle purchase of one share of Class A for each two shares of Class A and/or Class B owned of record, at price varying from \$2 to \$4). The 15 holders of all outstanding Class B stock being registered have granted underwriter exclusive option to purchase all or any part of such holdings within six months from June 11, but it is proposed to sell all Class A stock before offering Class B to public. Statement is effective July 14.

(Holders or Class A are entitled to preferential non-cumulative dividends at 12% before any dividends may be declared and paid on the Class B. Later bears no nominal dividend rate.) Parent company, at Glendale, Cal., manufactures hydraulic equipment, and subsidiary, Thos. L. Siebenthaler Mfg. Co., at Kansas City, Mo., manufactures radio equipment, de-icers, propeller servicing products, passenger loading stands, propeller carts and other items for use with aircraft and at airports. Consolidated backlog at May 15 was \$456,407 plus orders of \$29,000 on hand for items distributed.

Walter A. Hamilton, director of material division, Douglas Aircraft Co., Inc., is chairman of the board; Ted Lynn is president.

Current SEC Reports

UNITED AIRCRAFT CORP. amends 1938 and 1939 annual reports to show respective remunerations as follows: Thomas F. Hamilton, general European

representative, \$149,224 in 1938 and \$777,371 in 1939; Earle E. Risley, special European representative, \$91,811 and \$78,910; Shearman & Sterling, general counsel, \$38,000 & \$36,000; Allen R. Smart & Co., general auditors, \$35,371 & \$42,067.

AVIATION & TRANSPORTATION CORP. reports Stinson Aircraft of Canada Ltd., was dissolved Apr. 1940, and ceased to become a subsidiary.

In fiscal 1939 remunerations were: W. H. Beal, president of Aviation Mfg. Corp., \$37,640; A. I. Lodwick, \$20,040; L. B. Manning, \$24,395; Pruitt & Grealls, counsel, \$33,250.

VULTEE AIRCRAFT INC. announces net proceeds from sale of 300,000 shares of unissued stock were \$2,550,000 in cash before expenses. Shares were sold underwriters for \$8.50 and to public at \$10, initially. Major portion of income will be used for plant expansion.

TAYLORCRAFT AVIATION CORP. reveals it "is actively engaged in development of additional types (of aircraft) in addition to improvement and refinement of the existing type."

CHICAGO & SOUTHERN AIR LINES INC. estimates net proceeds from sale of 10,000 no-par common shares at \$386,777. Initial public price was \$7.50, with underwriters' commissions and discounts \$1.31. (Complete summary of registration in Financial Review, AMERICAN AVIATION, June 1).

CANADIAN-COLONIAL AIRWAYS INC. reports net proceeds of approximately \$330,000 (before estimated expenses of \$17,800) from sale of 60,000 \$1-par shares offered at initial public price of \$6.75.

TIMM AIRCRAFT CORP. will emphasize production of (1) training planes of its own impregnated-plywood construction and (2) aircraft parts for other companies. Development and production of the Hughes military plane will be temporarily deferred.

Firm is completing a contract with Vultee Aircraft Inc. for 300 firewall assemblies, ring assemblies, etc., and an order from Harlow Aircraft Co. for 50 carburetor mufflers, wing filets & fairings, tail cones, etc.

Balance sheet at Mar. 31 shows assets of \$545,747 (\$694,571 at Dec. 31), current assets of \$52,173, current liabilities of \$42,722. Of 650,000 authorized \$1-par shares, 625,000 were outstanding at Mar. 31. Net loss Jan. 1 through Mar. 31, 1940, was \$45,613, against net loss of \$72,422 in calendar 1939. Otto W. Timm is president. Plant and hangar space totals 42,500 sq. ft.

KINNER MOTORS INC. reports G. Brashears & Co. is offering 22,875 outstanding shares plus others latter may acquire. Kinner will receive no further proceeds from such sales. Initial public offering was discontinued by Brashears Feb. 3. Of the 38,978 shares originally offered under SEC registration of July 24, 1939, total of 325,227 have been sold.

Financial Reports

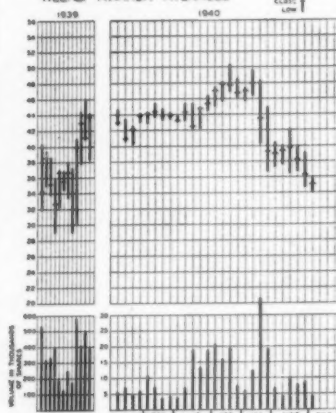
HAYES MFG. CORP. (1st quarter)—Net loss of \$79,963, against net loss of \$95,327 in 1939 1st quarter.

CANADIAN VICKERS LTD., in year ended Feb. 29 showed net loss of \$6,827 (Canadian), closing the period with backlog of \$6,400,000, with \$2,643,000 in orders booked since. New capital will be required for expansion. Bond interest due Aug. 1 & Feb. 1, last, was not paid and no payments into sinking fund for retirement of first mortgage bonds have been made since Aug. 1, 1932, report says.

MACKENZIE AIR SERVICE LTD., Canadian operator between Edmonton & Arctic, in calendar 1939 lost \$8,034 against net profit of \$34,653 for 1938. Current assets at Dec. 31 were \$201,794; current liabilities \$53,684. Line flew 3,647 plane hours, carried 662,173-lbs. of mail-express, & 2,361 passengers.

AERONAUTICAL SECURITIES INC., in calendar 1939 showed net income of \$23,246, and gross income of \$33,154 (\$15,599 from dividends & \$17,555 from profit realized from sale of investment). Investments at market on Dec. 30, 1939, had value of \$626,125, up 17% over cost. Net assets were \$668,844, five

WEEKLY AVIATION AVERAGES



times more than year earlier. There were 72,702 common shares outstanding against 13,575 a year previous. Liquidating value was \$9.20 per share at end of 1939. Net value of stocks in portfolio was shown in following proportions: 45% in stocks of aircraft manufacturers; 19% in parts & accessories companies; 19% in transport companies (against 13% on June 30, 1939).

Other Financial

LIBERTY AIRCRAFT PRODUCTS CORP. (formerly Kirkham Engineering & Mfg. Corp.) stockholders have approved recent proposal of Grumman Aircraft Engineering Corp. to purchase 58,468 shares (28%) at \$6 per share. "Stockholders also approved a proposal to holders of rights to purchase 30,000 shares of Liberty . . . stock at \$3 per share to surrender their rights covering 15,000 of such shares & to purchase the remaining 15,000 shares at par value." Liberty will receive \$353,808, allowing factory expansion. Robert Simon, president of Liberty, said his firm will continue serving other customers, such as Curtiss-Wright, Republic and Martin.

UNITED AIRCRAFT PRODUCTS INC. stockholders have voted increased capitalization from 200,000 common shares

York Joins Continental

L. Lockwood York, who has been associated with Aircooled Motors Corp., has joined Continental Motors Corp., Muskegon, Mich., as sales and service engineer.



to 400,000, with 63,333 shares to be issued in consideration for property & assets of Aircraft Precision Products Inc. The United board will be increased from seven to nine by election of C. A. Herberts, now president of Aircraft Precision Products, and H. H. Waggeneller, both to represent Aircraft Precision.

DIVIDENDS

AERONAUTICAL SECURITIES INC., 10¢, payable July 16, to stock of record June 28.

GLENN L. MARTIN CO. \$1 a share, declared June 21, payable July 18, record July 9. Last dividend was in Dec. 1939.

APPLICATIONS FOR LISTING

KINNER MOTORS INC., to N. Y. Curb Exchange & Los Angeles Stock Exchange: 445,978 shares, \$1-par common capital stock issued; 54,022 shares unissued.

Vega Orders 20 Menascos For NA Primary Trainers

Vega Airplane Co. has ordered 20 Menasco 125-hp. engines for as many NA-45 primary trainers. Operating under rights obtained from North American Aviation Inc., Vega is expected to receive Army orders for this all-metal trainer.

Starling Change Expected Starling Aircraft Corp., Benton Harbor, Mich., plans to move or establish a new plant at Clintonville, Wis., according to representatives.

NEW YORK STOCK EXCHANGE

Week Ended June 29					Week Ended July 6				
	High	Low	Change	Sales		High	Low	Change	Sales
American Airlines	62 1/2	56 3/4	+ 2	9,500	62 3/4	60	+ 1 1/2	4,100	
Aviation Corp.	5 1/2	4 1/2	- 1/2	15,200	5 1/2	4 3/4	- 1/4	5,400	
Bendix Aviation	29 1/2	26 1/2	- 3	10,400	28	26 1/2	- 1 1/2	1,700	
Boeing Airplane	14 3/4	13 1/4	- 1 1/2	12,300	14 1/4	13 3/4	- 1/2	2,700	
Consolidated Aircraft	21 1/2	18 1/2	- 3	3,900	20 1/2	18 3/4	- 1 1/2	1,100	
Continental Motors	3 1/2	2 1/2	- 1	24,700	2 3/4	2 1/4	- 1/2	3,800	
Curtiss-Wright	7 1/2	6 1/2	- 1	1,000	7	6 1/4	- 1/4	10,100	
Curtiss-Wright A	26	23 1/4	- 2 1/2	3,300	24 1/2	22 1/2	- 2	4,300	
Douglas Aircraft	73 1/2	66 1/2	- 7	10,800	68 1/2	65 1/2	- 3	4,300	
Eastern Air Lines	30 3/4	28	- 2 3/4	17,200	30	29	- 1	7,300	
Ex-Cell-O	32 1/2	29 1/2	- 3	5,500	31 1/2	30 1/2	- 1	1,300	
Grumman Aircraft	15 1/2	14 1/4	- 1/2	2,200	15 1/2	15	- 1/2	150	
Lockheed Aircraft	26 1/2	22 1/2	- 4	27,100	24 1/2	22 1/2	- 2	6,100	
Glenn L. Martin	30 3/4	26 1/2	- 4 1/2	15,200	29 1/2	27 1/2	- 2	7,800	
Natl. Aviation Corp.	10 3/4	9 1/2	- 1 1/2	3,400	9 1/2	9	- 1/2	1,200	
N. American Aviation	17 1/2	15 1/2	- 2	25,200	16 1/2	15 1/2	- 1	6,000	
Pan American Airways	15 1/4	13 1/4	- 2	23,900	14 3/4	14	- 1/4	5,300	
Sperry Corp.	38 1/2	36 1/2	- 2	15,200	36 1/2	35	- 1 1/2	6,000	
Square D	36 1/2	33 1/2	- 3	1,700	32 1/2	31 1/2	- 1	1,400	
Thompson Products	33	30	- 3	1,300	32 1/2	31 1/2	- 1	600	
TWA	19	16 1/2	- 2 1/2	6,700	18 1/2	17 1/2	- 1	2,400	
United Aircraft	38 3/4	32 1/2	- 6 1/2	36,200	34	31 1/2	- 2 1/2	18,400	
United Air Lines	18 3/4	15 1/2	- 3 1/2	38,300	17 1/2	16 1/2	- 1	10,000	
Wright Aeronautical	91	91	-	10	.....	.....	.....	.....	.....

NEW YORK CURB EXCHANGE

Week Ended June 29					Week Ended July 6				
	High	Low	Change	Sales		High	Low	Change	Sales
Aero Supply A	5 1/2	5	- 1/2	1,800	5 1/2	5 1/2	.....	.....	1,000
Aero Supply B	11	11	- 1/2	100	11	11	.....	.....	100
Air Associates	2 1/2	1 1/2	- 1	1,400	.....	.....	.....	.....	.....
Air Investors	.....	.....	.....	.....	.....	.....	.....	.....	.....
Air Investors cv pf	.....	.....	.....	.....	.....	.....	.....	.....	.....
Air Investors war	.....	.....	.....	.....	.....	.....	.....	.....	.....
Aviation & Transp.	2 1/2	2 1/2	.....	1,600	2 1/2	2 1/2	+ 1/2	2,200	
Beech Aircraft	4 1/2	4 1/2	- 1/2	1,000	4 1/2	4 1/2	.....	1,200	
Bell Aircraft	15 1/2	13 1/2	- 2	1,200	14 1/2	13 1/2	- 1	300	
Beilance Aircraft	4 1/2	4 1/2	.....	300	4 1/2	4 1/2	.....	.....	.....
Breeze Corps	5 1/2	4 1/2	- 1	1,800	5 1/2	5 1/2	- 1/2	300	
Brewster Aero	9 1/2	8 1/2	- 1	12,400	9 1/2	8 1/2	- 1	2,800	
Canadian Colonial	7	6 1/2	- 1/2	3,200	6 1/2	6 1/2	- 1/2	200	
Fairchild Aviation	9 1/2	8 1/2	- 1	1,000	8 1/2	8 1/2	- 1/2	800	
Fairchild Eng. & Air	4 1/2	4 1/2	- 1/2	6,800	4 1/2	4 1/2	- 1/2	3,800	
Irving Air Chute	14 1/2	14	- 1/2	1,400	13 1/2	13 1/2	- 1/2	300	
Penn-Central	17 1/2	15 1/2	- 2	2,800	17 1/2	16 1/2	- 1	2,800	
Republic Aviation	4 1/2	4 1/2	- 1/2	9,500	4 1/2	4 1/2	- 1/2	.....	.....
Roosevelt Field	4	4	.....	700	4	4	.....	.....	.....
Waco Aircraft	4 1/2	4 1/2	- 1/2	7,500	4 1/2	4 1/2	.....	.....	.....
Western Air Express	4 1/2	4 1/2	+ 1/2	.....	4 1/2	4 1/2	.....	.....	.....

News in Pictures



George Rutledge, right, receives a gold watch from Ralph S. Damon, vice-president in charge of operations of American Airlines, in honor of 15 consecutive years with the line. He's American's first 15-year man. Rutledge is in the company's stations department at LaGuardia Field, New York.



The Glenn L. Martin Co. of Baltimore recently employed its 1,000th engineer, Edwin J. Formhals Jr. (center) of Cleveland, graduate of Case School of Applied Science. Martin (left) shows Formhals the model of his first airplane, built in 1908, when Martin was just the age of his 1,000th engineer. W. K. "Ken" Ebel, Martin's chief engineer and chief test pilot, looks on.



The Musick Memorial Trophy, international award for advancement of safety in aviation, is presented by Maj. Lester D. Gardner (left), executive vice-president of the Institute of Aeronautical Sciences, to Robert J. Minshall, vice-president in charge of engineering of Boeing Aircraft Co., at a dinner in Minshall's honor in Seattle.



Capt. Eddie Rickenbacker, president of Eastern Air Lines, answers the questions of an enthusiastic group of young model plane builders during the Air Youth of America program over the NBC-Blue Network. The Air Youth programs were broadcast Mondays, May 27 through July 1, by NBC in cooperation with Air Youth of America.

Radiophone Co. Incorporates
Radiophone Co. has filed articles of incorporation with the California secretary of state, listing 100 shares of npv. common stock as capital. Spokesman for the company said patents have been obtained on a new type of model aircraft, radio controlled, which will be "produced as soon as our papers are returned." It is understood the company has an Army contract for about nine radio-controlled models for anti-aircraft target use. They are said to fly 90 mph.

Drinkwater Elected CAL Director; West Named Vice Pres.

Election of Terrell C. Drinkwater, well-known Denver attorney, as a director of Continental Air Lines, and promotion of C. C. West Jr., general sales manager, to vice-president-traffic-sales, has been announced by Robert F. Six, president of the company.

Drinkwater, who is a member of the law firm of Newton, Davis and Drinkwater, is on the Colorado State Aeronautics Commission, and is a graduate and former teacher at Colorado University School of Law. He has represented both Continental and Mid-Continent in cases before the CAB. He is 32 years old.

West was graduated from Stanford and for several years represented American Express Co. in Turkey. Following this, he became associated with United Air Lines in its San Francisco traffic and sales office. West joined CAL as general sales manager last September.

Aviation Day

(Continued from page 1)

Mr. Crim is circulating applications for what he calls "hangars," a new name for chapters, and the charter fee for each "hangar" is \$10. For members the initiation fee is \$1.00 and the rates go on up as far as you like—as far as \$100 for life members.

Conflicting statements appear regarding Mr. Crim's support in the aviation field. He said the National Aeronautic Association was supporting him 100% "all down the line" but this statement appeared to be quite a surprise to Gill Robb Wilson, NAA president, who denied knowing anything about it. Mr. Crim did not claim support from the Aeronautical Chamber of Commerce but Col. John H. Jouett, president, removed all doubt by saying he didn't know anything about Mr. Crim and his association.

On the other hand, Mr. Crim is not one to let moss grow under his feet. "These organizations must cooperate," he said, "Because I started this thing and got on the inside first." Being on the inside first probably has its attributes but so far aviation people don't know anything about National Aviation Day Association and what is probably of more concern, has anyone ever asked Orville Wright what he thinks about using his birthday in this manner?

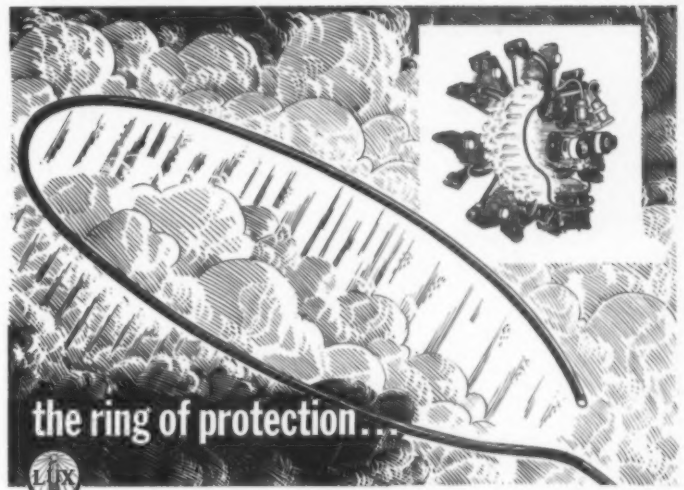
Tom Hardin

(Continued from page 1)

vice-president in charge of engineering, in research work.

Hardin was born in Mexia, Tex., in 1894 and attended school in Texas, studying aeronautical and mechanical engineering by home courses. He began flying for the Army in 1917 and served with the 101st Aero Squadron during the World War. After the war he left the Army and following several years of barnstorming, took over the Good and Foster Air Service in Dallas in 1925. In 1929, he organized Texas Air Transport with Temple Bowen and served as vice-president-general manager.

In 1930, Hardin became associated with American Airways as general manager and, except for a short period with the Aircraft Service & Supply Co. in Dallas, remained with American until he was appointed to the Air Safety Board in 1938. He became chairman of the Board on Aug. 22, 1939.



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